Pantheon Report

Generated at 2018-06-30 20:44:51 (UTC).

Data path: Stanford Ethernet (*remote*) →AWS California 1 Ethernet (*local*).

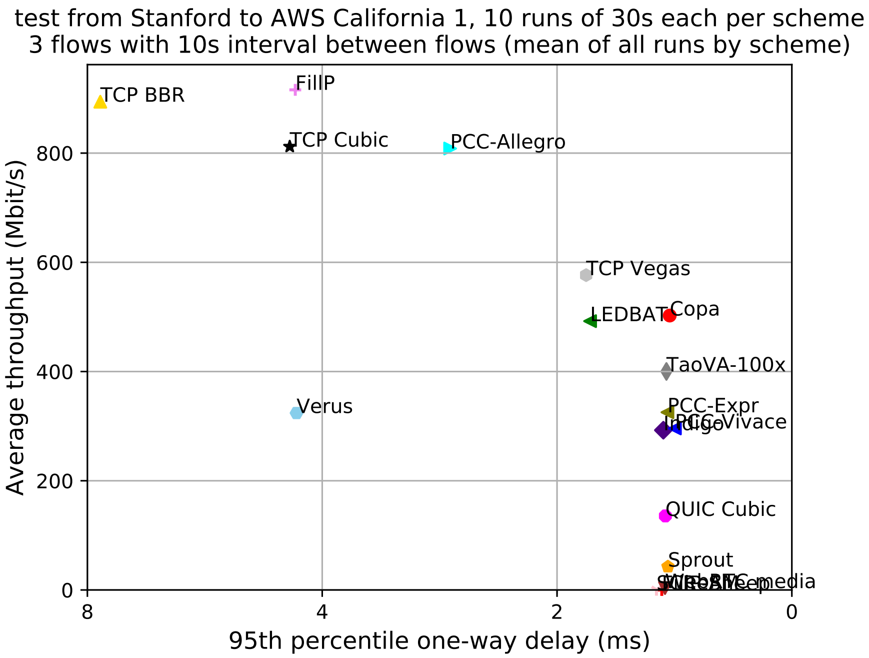
Repeated the test of 17 congestion control schemes 10 times.

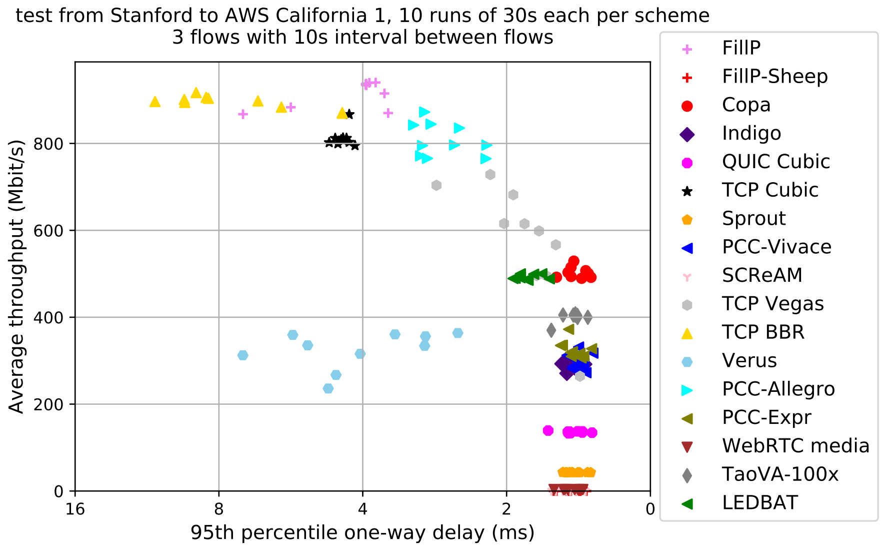
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

```
Git summary:
branch: master @ 715dc5f09d172e419699f6f17f1cb4c45064f212
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ 30060ab034deb3424347f5cc3db86198eac35d2a
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```


test from Stanford to AWS California 1, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
200
400
600
800
8
4
2
0
TCP BBR
FillP
TCP Cubic
PCC-Allegro
TCP Vegas
LEDBAT
Copa
TaoVA-100x
Verus
PCC-Expr
Indigo
PCC-Vivace
QUIC Cubic
Sprout
SCReAM
WebRTC media
FillP-Sheep


test from Stanford to AWS California 1, 10 runs of 30s each per scheme
3 flows with 10s interval between flows
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
200
400
600
800
16
8
4
2
0
FillP
FillP-Sheep
Copa
Indigo
QUIC Cubic
TCP Cubic
Sprout
PCC-Vivace
SCReAM
TCP Vegas
TCP BBR
Verus
PCC-Allegro
PCC-Expr
WebRTC media
TaoVA-100x
LEDBAT

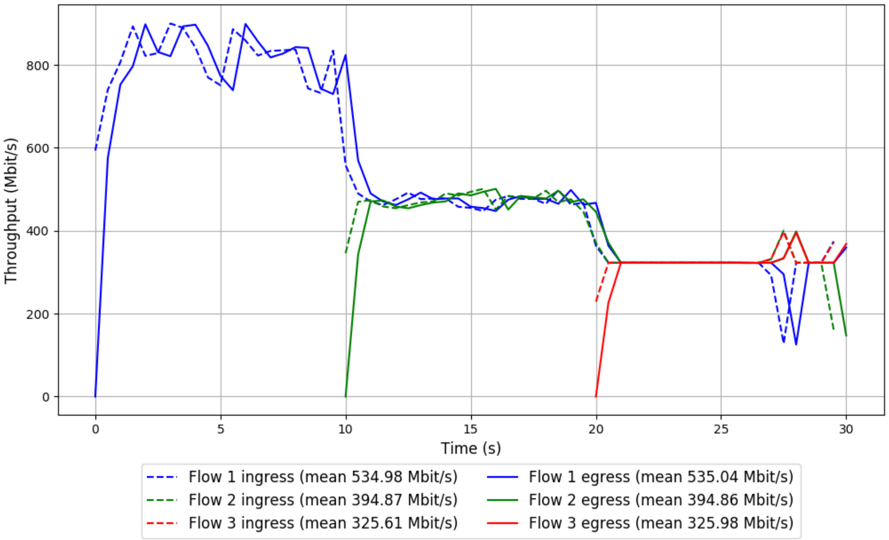
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean avg tput (Mbit/s) flow 2	mean avg tput (Mbit/s) flow 3	mean 95th-%ile delay (ms) flow 1	mean 95th-%ile delay (ms) flow 2	mean 95th-%ile delay (ms) flow 3	mean loss rate (%) flow 1	mean loss rate (%) flow 2	mean loss rate (%) flow 3
TCP BBR	10	523.33	394.54	325.17	8.15	4.33	4.36	0.05	0.09	0.20
Copa	10	309.75	228.28	123.09	1.04	1.02	1.08	0.03	0.05	0.21
TCP Cubic	10	442.51	395.71	318.55	4.39	4.40	4.42	0.06	0.09	0.23
FillP	10	555.21	391.40	303.18	4.13	5.18	3.86	0.04	0.09	0.23
FillP-Sheep	10	0.00	0.00	0.00	1.09	1.10	1.09	0.00	0.00	0.00
Indigo	10	158.94	151.51	99.95	1.09	1.09	1.12	0.06	0.09	0.17
LEDBAT	10	291.40	221.67	160.71	1.63	1.86	1.71	0.04	0.09	0.28
PCC-Allegro	10	594.94	264.39	115.40	2.64	2.69	2.10	0.02	0.07	0.23
PCC-Expr	10	222.41	124.51	61.37	1.06	1.07	1.02	0.02	0.06	0.26
QUIC Cubic	10	74.36	65.18	54.10	1.07	1.07	1.07	0.05	0.10	0.21
SCReAM	10	0.22	0.22	0.22	1.15	1.14	1.13	0.07	0.13	0.25
Sprout	10	21.43	21.57	21.27	1.06	1.04	1.04	0.08	0.10	0.36
TaoVA-100x	10	226.03	200.27	122.99	1.04	1.07	1.29	0.03	0.06	0.21
TCP Vegas	10	266.14	322.43	288.59	1.56	1.86	1.76	0.06	0.09	0.20
Verus	10	200.61	132.56	107.94	5.04	2.35	1.96	0.03	0.09	0.17
PCC-Vivace	10	207.57	102.80	60.46	0.99	1.00	1.00	0.02	0.10	0.22
WebRTC media	10	1.72	1.22	0.53	1.08	1.08	1.08	0.03	0.03	0.07

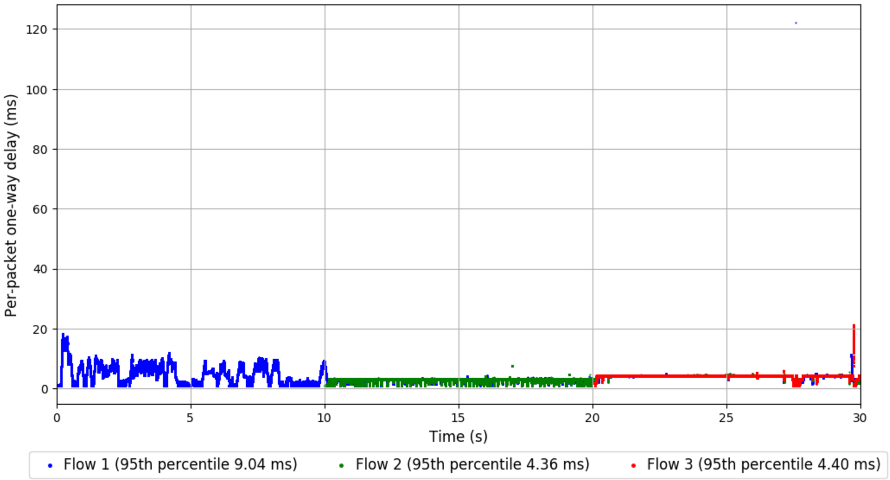
```
Run 1: Statistics of TCP BBR

Start at: 2018-06-30 14:19:30
End at: 2018-06-30 14:20:00
Local clock offset: 3.391 ms
Remote clock offset: 3.159 ms

# Below is generated by plot.py at 2018-06-30 19:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 906.26 Mbit/s
95th percentile per-packet one-way delay: 8.508 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 535.04 Mbit/s
95th percentile per-packet one-way delay: 9.040 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 394.86 Mbit/s
95th percentile per-packet one-way delay: 4.364 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 325.98 Mbit/s
95th percentile per-packet one-way delay: 4.403 ms
Loss rate: 0.10%
```

Run 1: Report of TCP BBR — Data Link



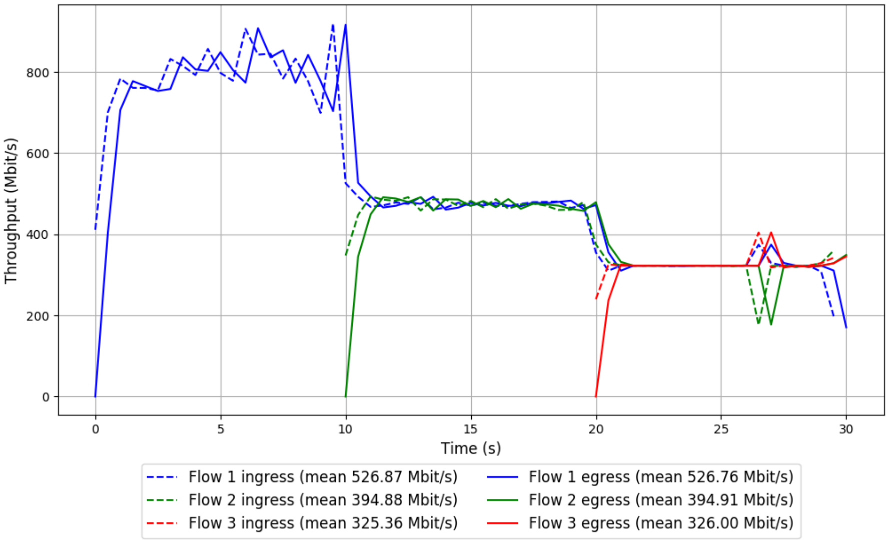


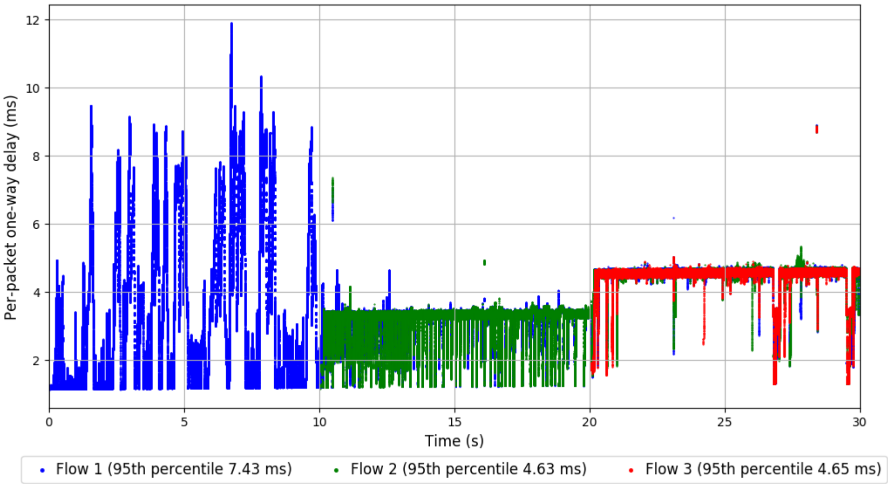
```
Run 2: Statistics of TCP BBR

Start at: 2018-06-30 14:46:02
End at: 2018-06-30 14:46:32
Local clock offset: 2.878 ms
Remote clock offset: 2.866 ms

# Below is generated by plot.py at 2018-06-30 19:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 897.85 Mbit/s
95th percentile per-packet one-way delay: 6.629 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 526.76 Mbit/s
95th percentile per-packet one-way delay: 7.434 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 394.91 Mbit/s
95th percentile per-packet one-way delay: 4.630 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 326.00 Mbit/s
95th percentile per-packet one-way delay: 4.648 ms
Loss rate: 0.01%
```

Run 2: Report of TCP BBR — Data Link



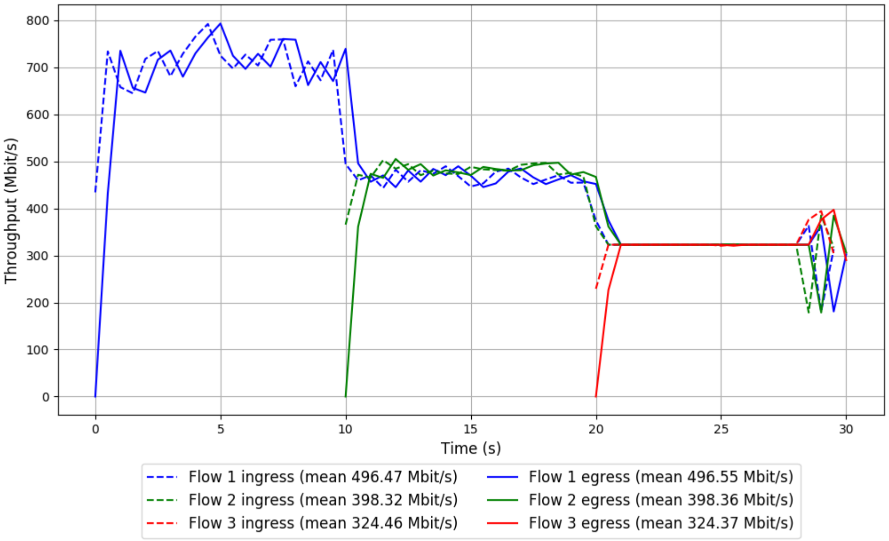


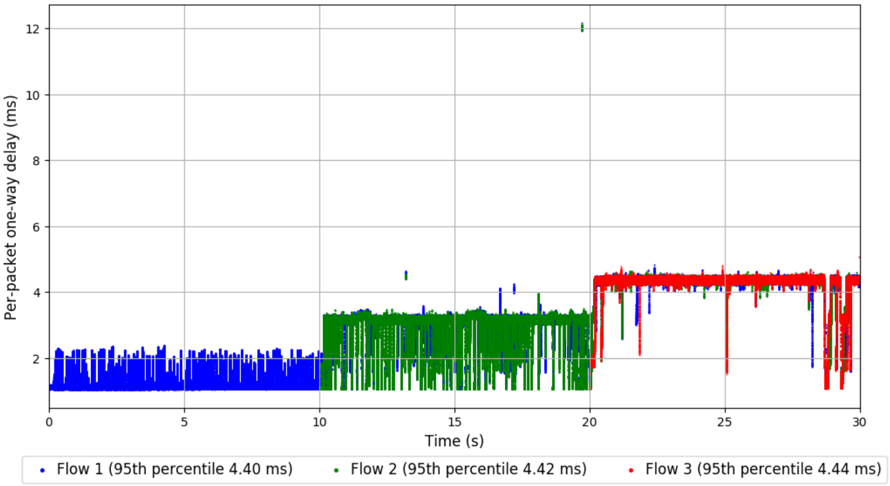
```
Run 3: Statistics of TCP BBR

Start at: 2018-06-30 15:12:40
End at: 2018-06-30 15:13:10
Local clock offset: -0.43 ms
Remote clock offset: 3.101 ms

# Below is generated by plot.py at 2018-06-30 19:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 869.55 Mbit/s
95th percentile per-packet one-way delay: 4.416 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 496.55 Mbit/s
95th percentile per-packet one-way delay: 4.397 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 398.36 Mbit/s
95th percentile per-packet one-way delay: 4.415 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 324.37 Mbit/s
95th percentile per-packet one-way delay: 4.444 ms
Loss rate: 0.22%
```

Run 3: Report of TCP BBR — Data Link



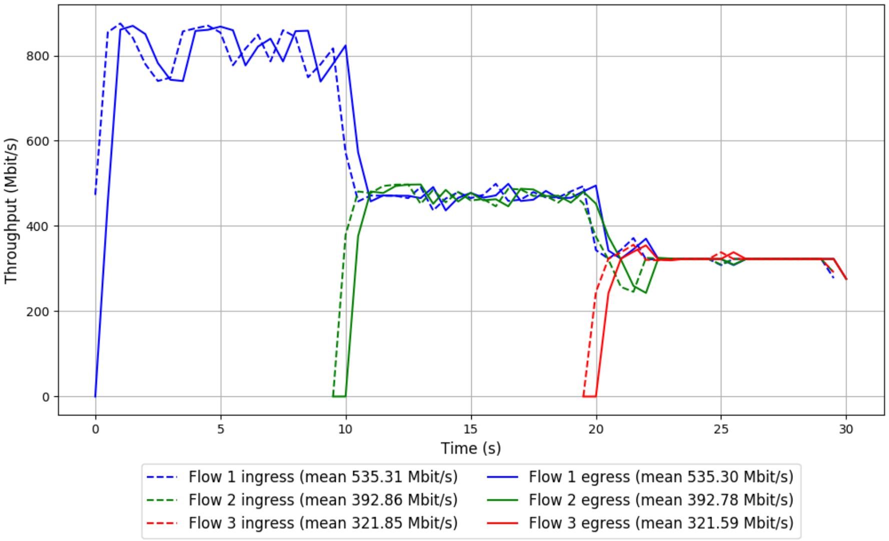


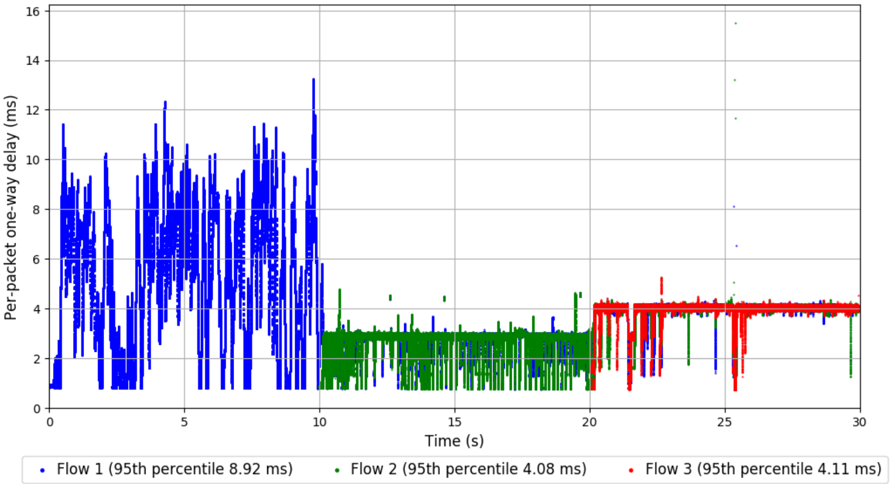
```
Run 4: Statistics of TCP BBR

Start at: 2018-06-30 15:39:13
End at: 2018-06-30 15:39:43
Local clock offset: 3.587 ms
Remote clock offset: 0.772 ms

# Below is generated by plot.py at 2018-06-30 19:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 903.85 Mbit/s
95th percentile per-packet one-way delay: 8.417 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 535.30 Mbit/s
95th percentile per-packet one-way delay: 8.916 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 392.78 Mbit/s
95th percentile per-packet one-way delay: 4.085 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 321.59 Mbit/s
95th percentile per-packet one-way delay: 4.114 ms
Loss rate: 0.28%
```

Run 4: Report of TCP BBR — Data Link



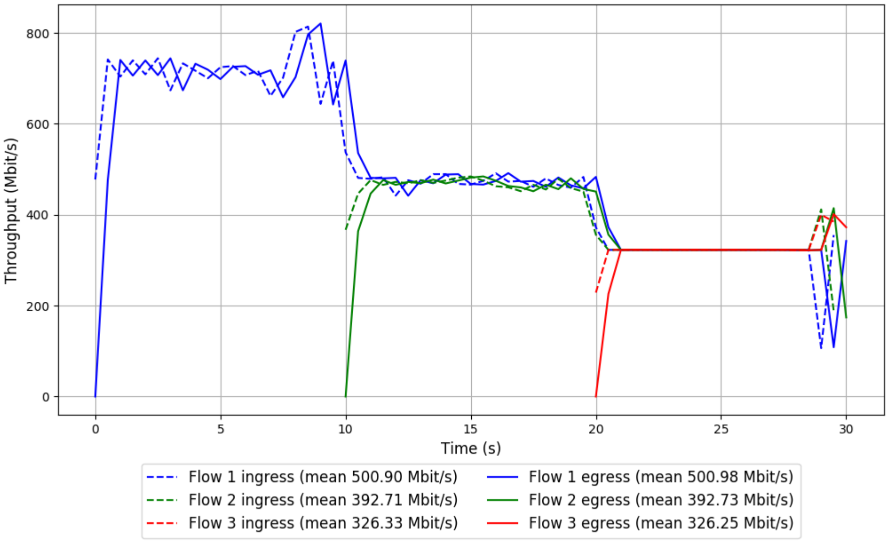


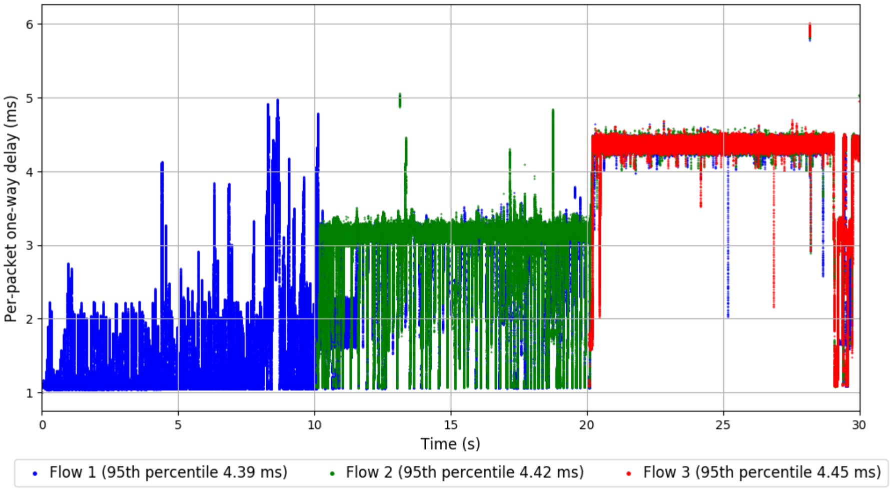
```
Run 5: Statistics of TCP BBR

Start at: 2018-06-30 16:05:46
End at: 2018-06-30 16:06:16
Local clock offset: 3.324 ms
Remote clock offset: -0.726 ms

# Below is generated by plot.py at 2018-06-30 19:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 870.65 Mbit/s
95th percentile per-packet one-way delay: 4.416 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 500.98 Mbit/s
95th percentile per-packet one-way delay: 4.386 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 392.73 Mbit/s
95th percentile per-packet one-way delay: 4.419 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 326.25 Mbit/s
95th percentile per-packet one-way delay: 4.451 ms
Loss rate: 0.21%
```

Run 5: Report of TCP BBR — Data Link



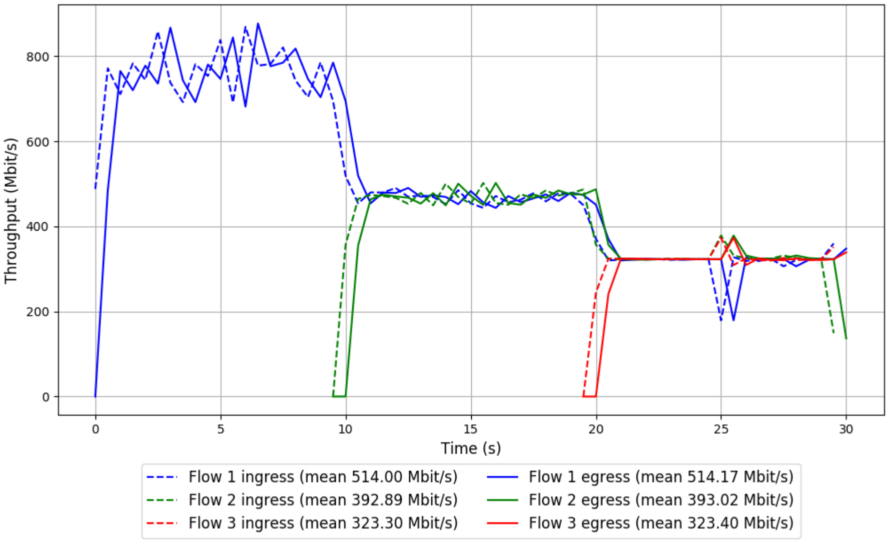


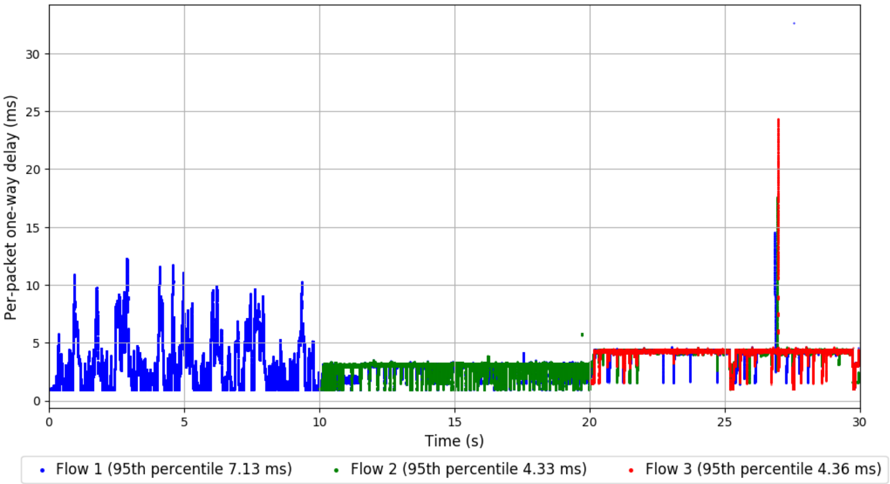
```
Run 6: Statistics of TCP BBR

Start at: 2018-06-30 16:32:12
End at: 2018-06-30 16:32:42
Local clock offset: 0.164 ms
Remote clock offset: -0.236 ms

# Below is generated by plot.py at 2018-06-30 19:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 883.56 Mbit/s
95th percentile per-packet one-way delay: 5.921 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 514.17 Mbit/s
95th percentile per-packet one-way delay: 7.135 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 393.02 Mbit/s
95th percentile per-packet one-way delay: 4.330 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 323.40 Mbit/s
95th percentile per-packet one-way delay: 4.356 ms
Loss rate: 0.23%
```

Run 6: Report of TCP BBR — Data Link



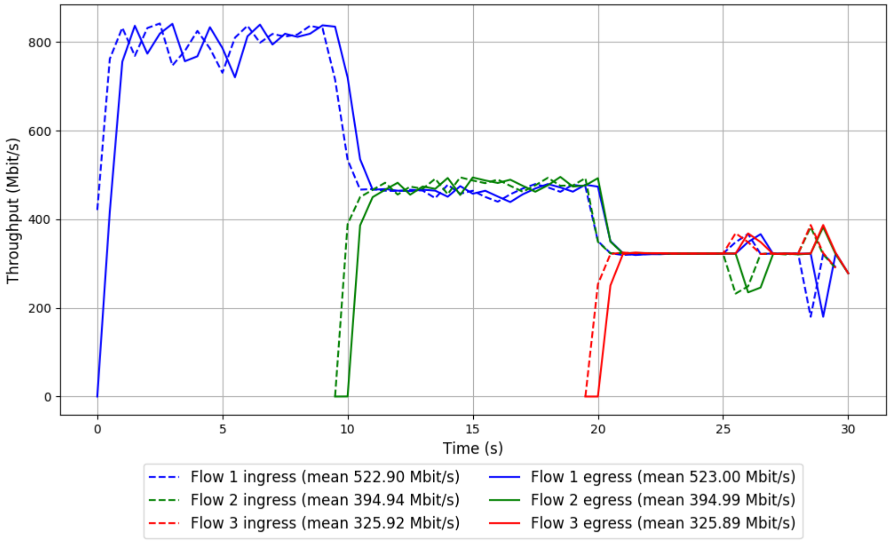


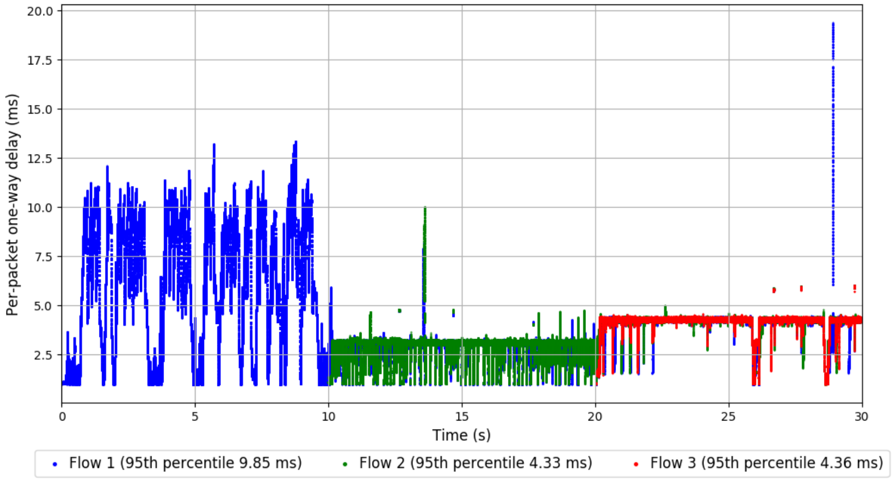
```
Run 7: Statistics of TCP BBR

Start at: 2018-06-30 16:58:45
End at: 2018-06-30 16:59:15
Local clock offset: 2.563 ms
Remote clock offset: 3.465 ms

# Below is generated by plot.py at 2018-06-30 19:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 894.50 Mbit/s
95th percentile per-packet one-way delay: 9.431 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 523.00 Mbit/s
95th percentile per-packet one-way delay: 9.849 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 394.99 Mbit/s
95th percentile per-packet one-way delay: 4.326 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 325.89 Mbit/s
95th percentile per-packet one-way delay: 4.355 ms
Loss rate: 0.22%
```

Run 7: Report of TCP BBR — Data Link



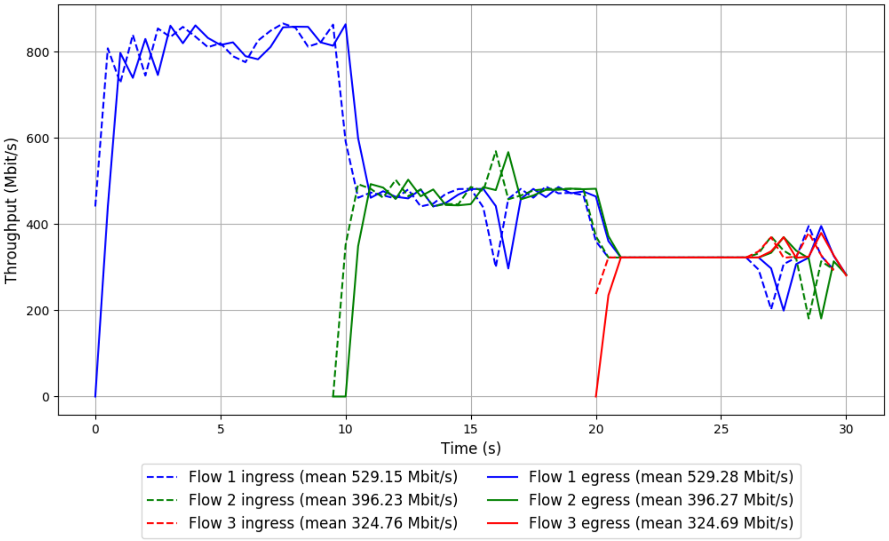


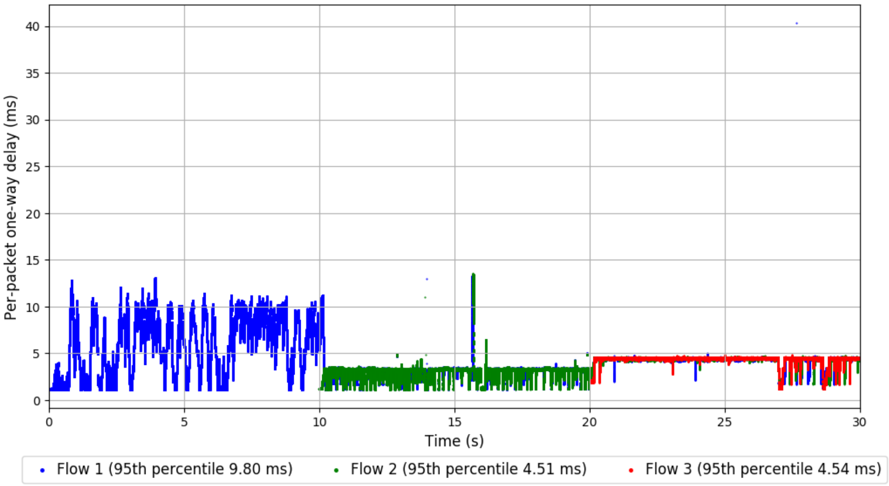
```
Run 8: Statistics of TCP BBR

Start at: 2018-06-30 17:25:26
End at: 2018-06-30 17:25:56
Local clock offset: 1.17 ms
Remote clock offset: 3.362 ms

# Below is generated by plot.py at 2018-06-30 19:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 901.15 Mbit/s
95th percentile per-packet one-way delay: 9.455 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 529.28 Mbit/s
95th percentile per-packet one-way delay: 9.800 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 396.27 Mbit/s
95th percentile per-packet one-way delay: 4.506 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 324.69 Mbit/s
95th percentile per-packet one-way delay: 4.537 ms
Loss rate: 0.23%
```

Run 8: Report of TCP BBR — Data Link



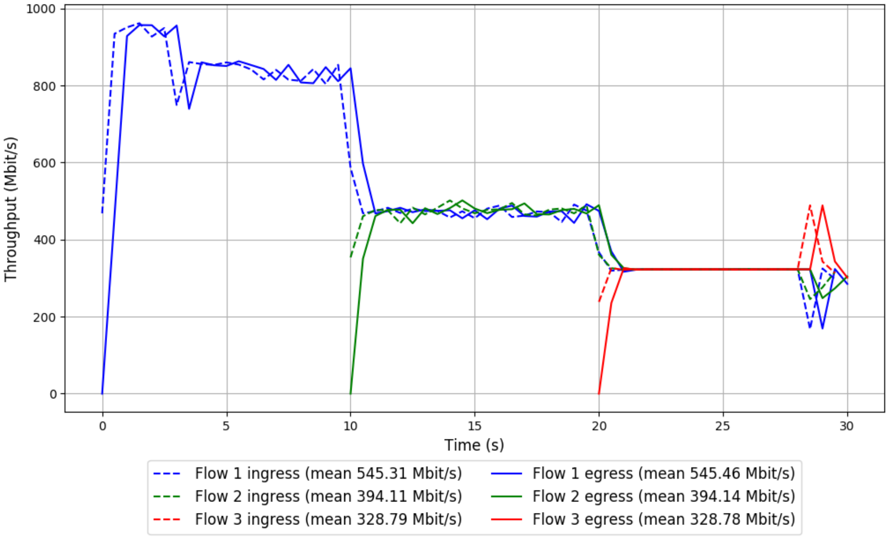


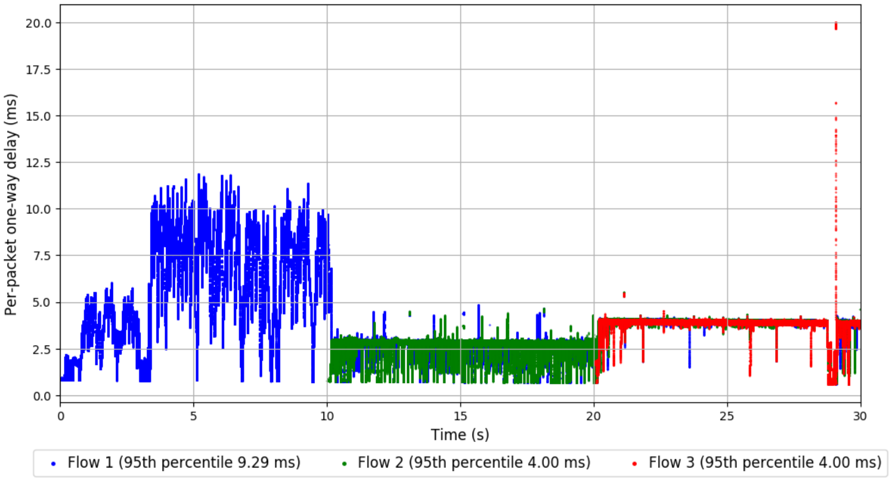
```
Run 9: Statistics of TCP BBR

Start at: 2018-06-30 17:52:04
End at: 2018-06-30 17:52:34
Local clock offset: 2.006 ms
Remote clock offset: 1.344 ms

# Below is generated by plot.py at 2018-06-30 19:11:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 917.00 Mbit/s
95th percentile per-packet one-way delay: 8.928 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 545.46 Mbit/s
95th percentile per-packet one-way delay: 9.293 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 394.14 Mbit/s
95th percentile per-packet one-way delay: 3.997 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 328.78 Mbit/s
95th percentile per-packet one-way delay: 3.997 ms
Loss rate: 0.22%
```

Run 9: Report of TCP BBR — Data Link



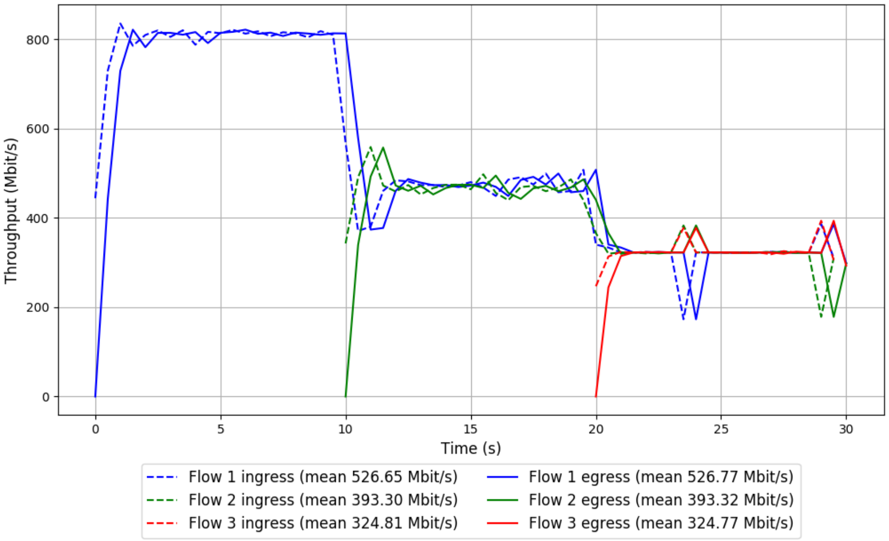


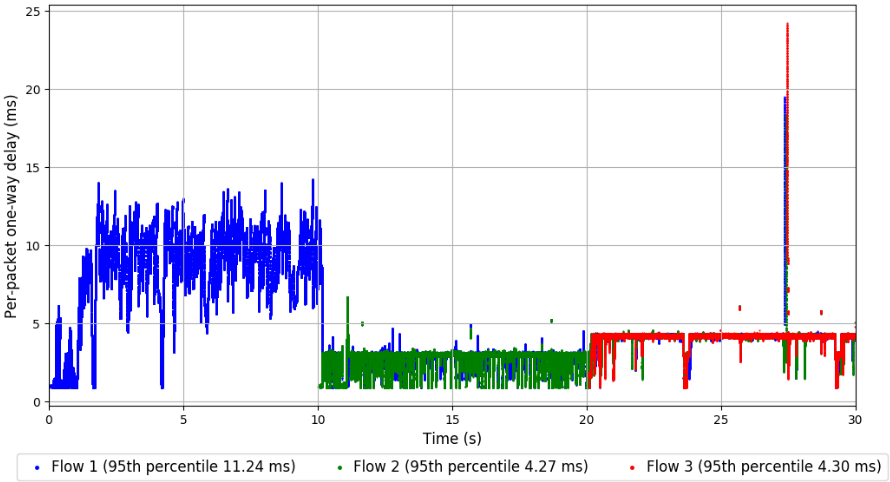
```
Run 10: Statistics of TCP BBR

Start at: 2018-06-30 18:18:28
End at: 2018-06-30 18:18:58
Local clock offset: 3.812 ms
Remote clock offset: -1.17 ms

# Below is generated by plot.py at 2018-06-30 19:11:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 896.57 Mbit/s
95th percentile per-packet one-way delay: 10.886 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 526.77 Mbit/s
95th percentile per-packet one-way delay: 11.245 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 393.32 Mbit/s
95th percentile per-packet one-way delay: 4.268 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 324.77 Mbit/s
95th percentile per-packet one-way delay: 4.299 ms
Loss rate: 0.23%
```

Run 10: Report of TCP BBR — Data Link



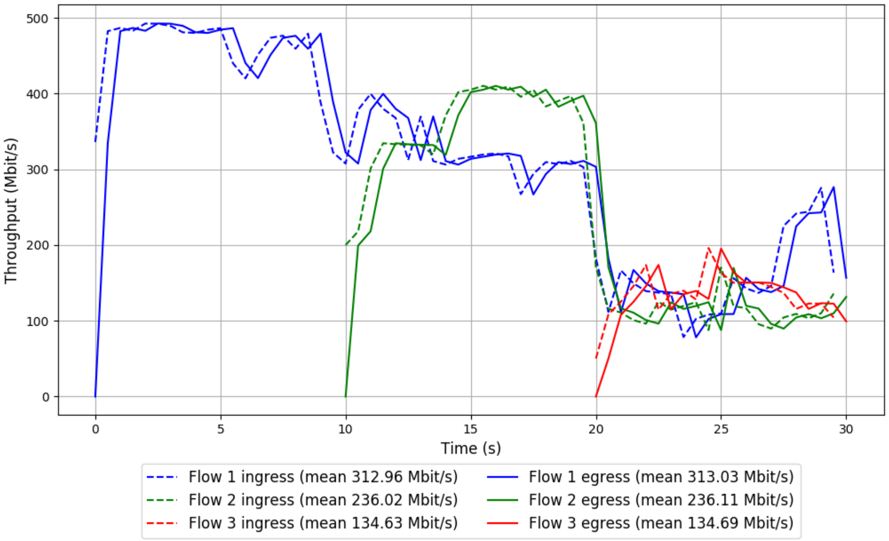


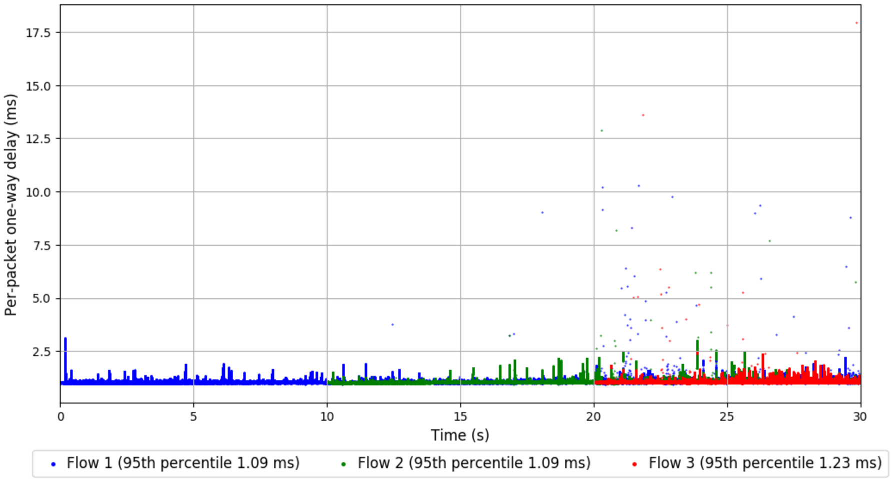
```
Run 1: Statistics of Copa

Start at: 2018-06-30 14:14:50
End at: 2018-06-30 14:15:20
Local clock offset: 3.672 ms
Remote clock offset: 3.071 ms

# Below is generated by plot.py at 2018-06-30 19:11:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 514.82 Mbit/s
95th percentile per-packet one-way delay: 1.104 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 313.03 Mbit/s
95th percentile per-packet one-way delay: 1.093 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 236.11 Mbit/s
95th percentile per-packet one-way delay: 1.090 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 134.69 Mbit/s
95th percentile per-packet one-way delay: 1.230 ms
Loss rate: 0.19%
```

Run 1: Report of Copa — Data Link



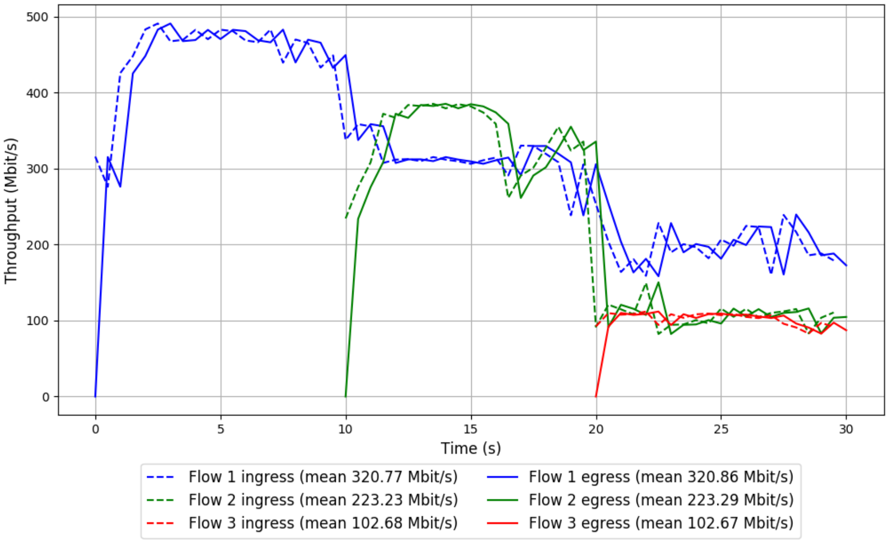


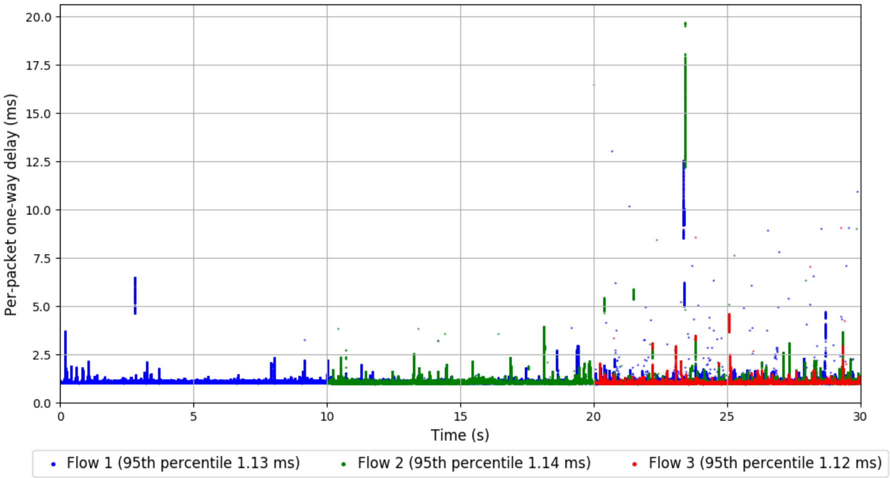
```
Run 2: Statistics of Copa

Start at: 2018-06-30 14:41:21
End at: 2018-06-30 14:41:51
Local clock offset: 3.192 ms
Remote clock offset: 2.836 ms

# Below is generated by plot.py at 2018-06-30 19:11:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 503.50 Mbit/s
95th percentile per-packet one-way delay: 1.133 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 320.86 Mbit/s
95th percentile per-packet one-way delay: 1.131 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 223.29 Mbit/s
95th percentile per-packet one-way delay: 1.141 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 102.67 Mbit/s
95th percentile per-packet one-way delay: 1.118 ms
Loss rate: 0.22%
```

Run 2: Report of Copa — Data Link



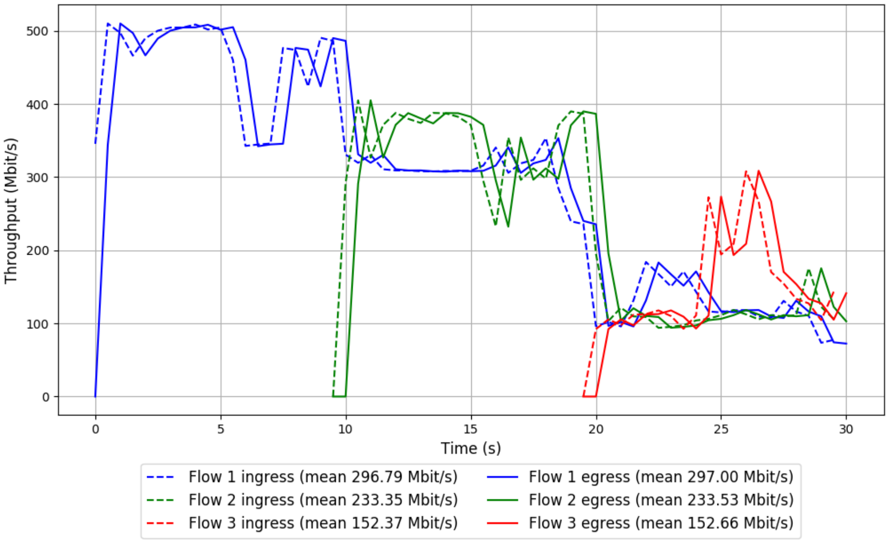


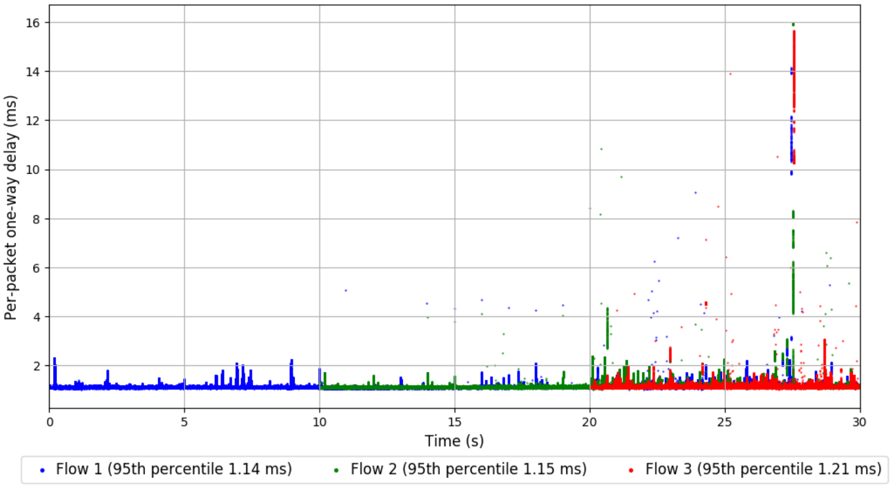
```
Run 3: Statistics of Copa

Start at: 2018-06-30 15:08:00
End at: 2018-06-30 15:08:30
Local clock offset: -0.2 ms
Remote clock offset: 3.041 ms

# Below is generated by plot.py at 2018-06-30 19:11:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 503.18 Mbit/s
95th percentile per-packet one-way delay: 1.146 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 297.00 Mbit/s
95th percentile per-packet one-way delay: 1.135 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 233.53 Mbit/s
95th percentile per-packet one-way delay: 1.146 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 152.66 Mbit/s
95th percentile per-packet one-way delay: 1.207 ms
Loss rate: 0.07%
```

Run 3: Report of Copa — Data Link



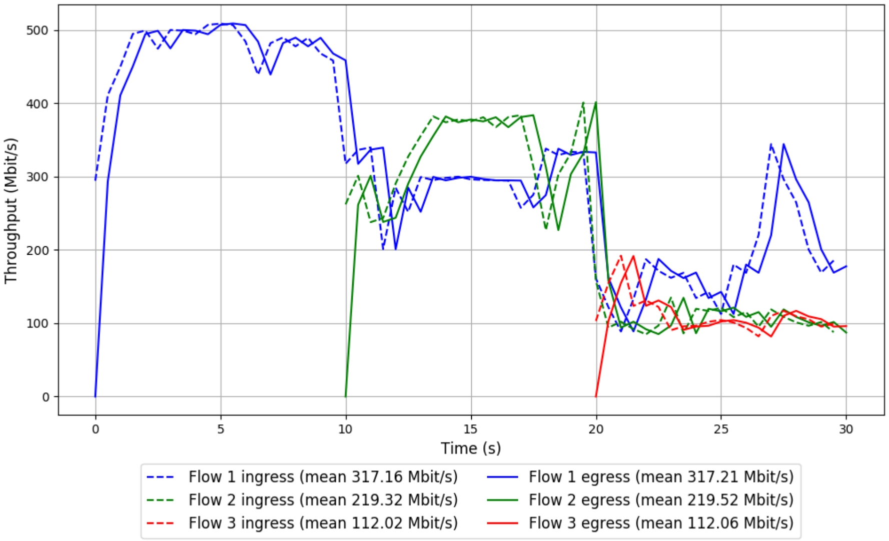


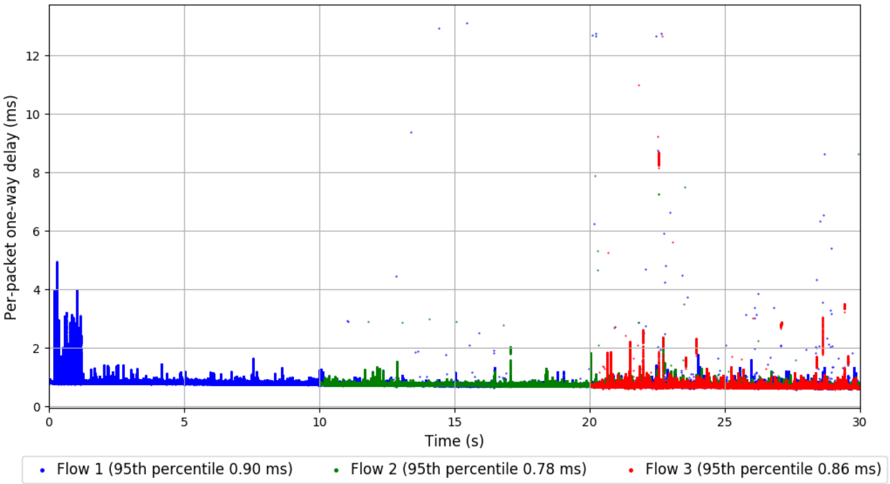
```
Run 4: Statistics of Copa

Start at: 2018-06-30 15:34:34
End at: 2018-06-30 15:35:04
Local clock offset: 3.267 ms
Remote clock offset: 1.611 ms

# Below is generated by plot.py at 2018-06-30 19:11:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 500.51 Mbit/s
95th percentile per-packet one-way delay: 0.863 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 317.21 Mbit/s
95th percentile per-packet one-way delay: 0.898 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 219.52 Mbit/s
95th percentile per-packet one-way delay: 0.783 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 112.06 Mbit/s
95th percentile per-packet one-way delay: 0.860 ms
Loss rate: 0.15%
```

Run 4: Report of Copa — Data Link



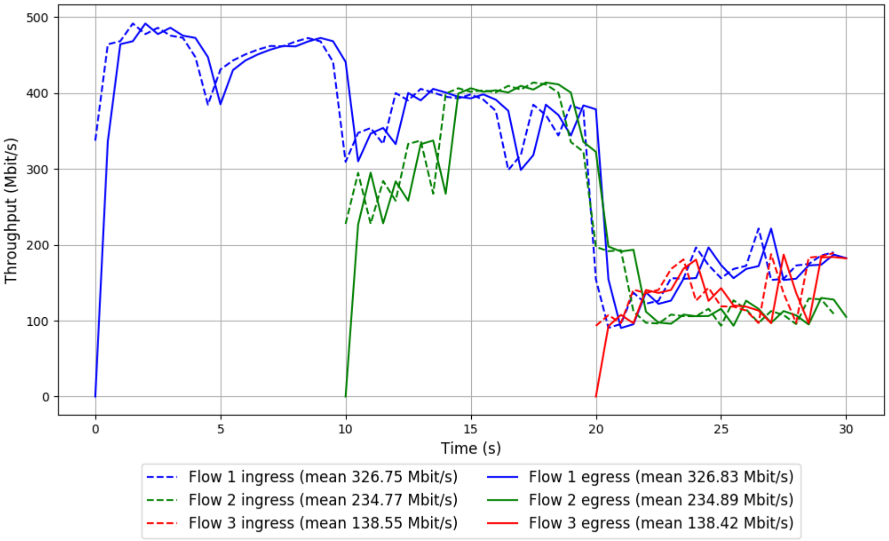


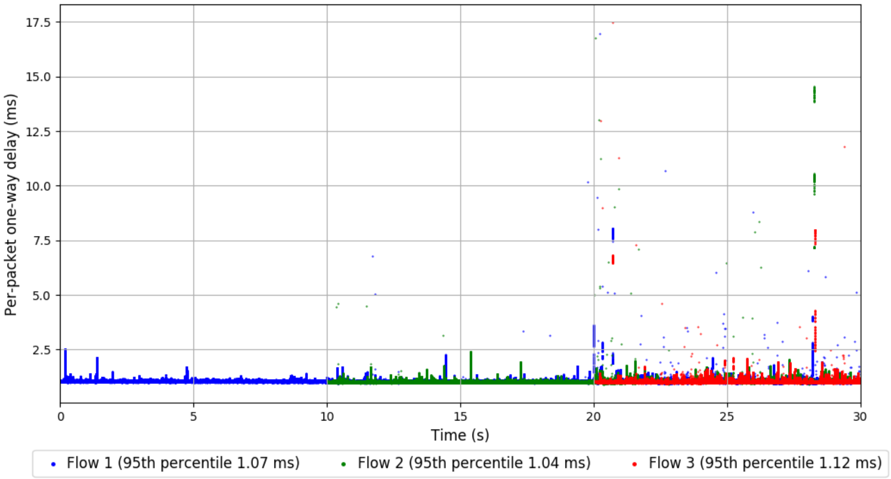
```
Run 5: Statistics of Copa

Start at: 2018-06-30 16:01:05
End at: 2018-06-30 16:01:35
Local clock offset: 3.324 ms
Remote clock offset: -0.873 ms

# Below is generated by plot.py at 2018-06-30 19:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 529.15 Mbit/s
95th percentile per-packet one-way delay: 1.065 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 326.83 Mbit/s
95th percentile per-packet one-way delay: 1.067 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 234.89 Mbit/s
95th percentile per-packet one-way delay: 1.045 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 138.42 Mbit/s
95th percentile per-packet one-way delay: 1.125 ms
Loss rate: 0.29%
```

Run 5: Report of Copa — Data Link



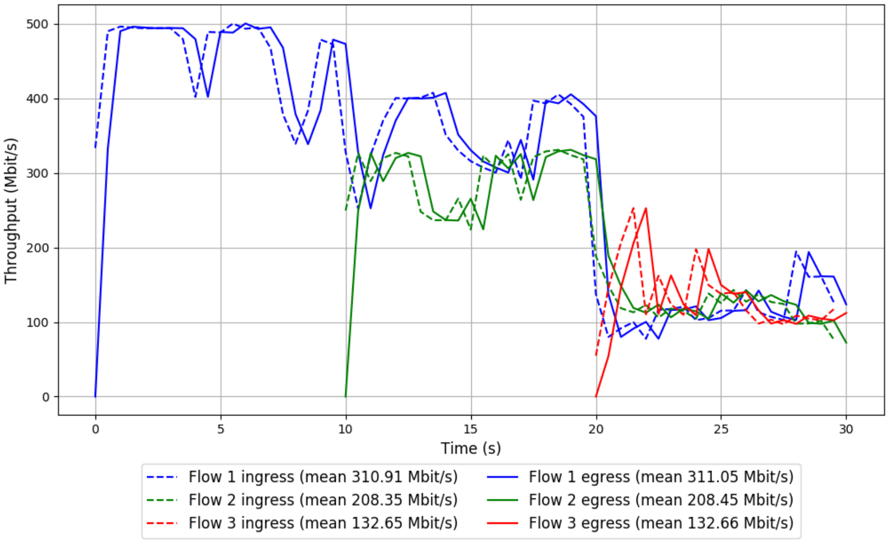


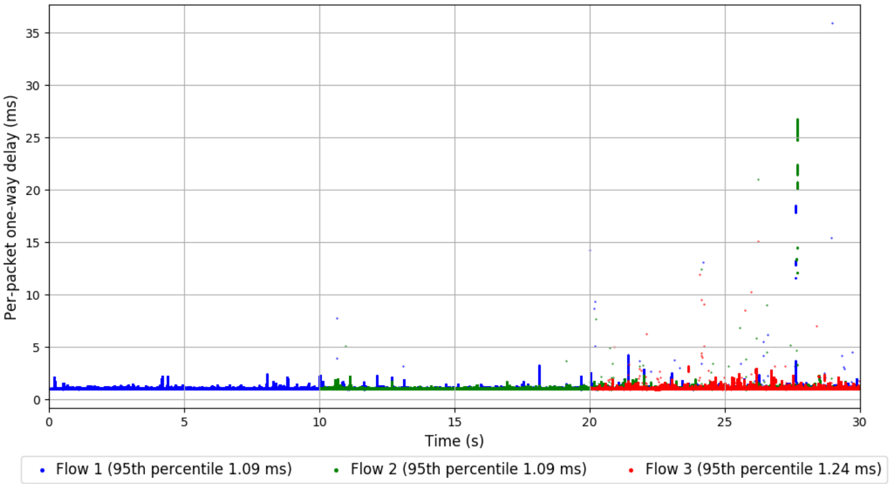
```
Run 6: Statistics of Copa

Start at: 2018-06-30 16:27:33
End at: 2018-06-30 16:28:03
Local clock offset: 0.634 ms
Remote clock offset: -0.214 ms

# Below is generated by plot.py at 2018-06-30 19:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 493.71 Mbit/s
95th percentile per-packet one-way delay: 1.103 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 311.05 Mbit/s
95th percentile per-packet one-way delay: 1.095 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 208.45 Mbit/s
95th percentile per-packet one-way delay: 1.087 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 132.66 Mbit/s
95th percentile per-packet one-way delay: 1.243 ms
Loss rate: 0.19%
```

Run 6: Report of Copa — Data Link



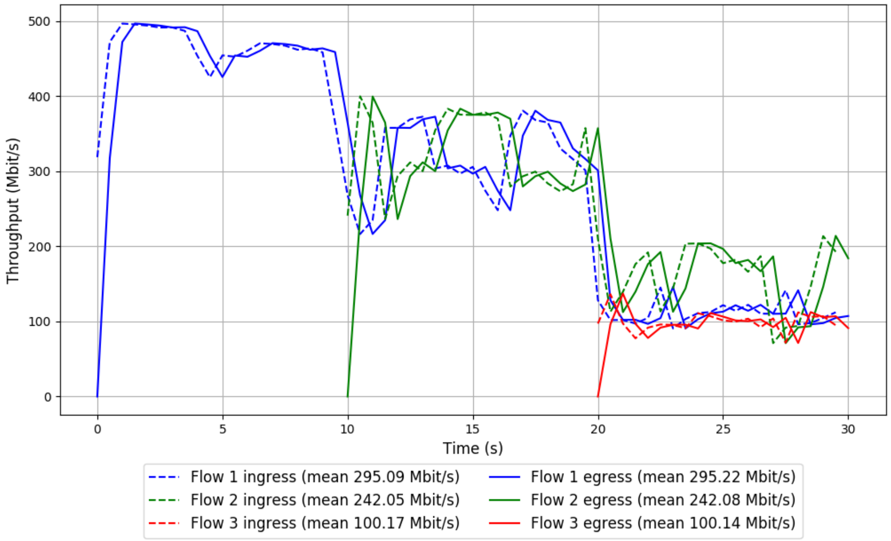


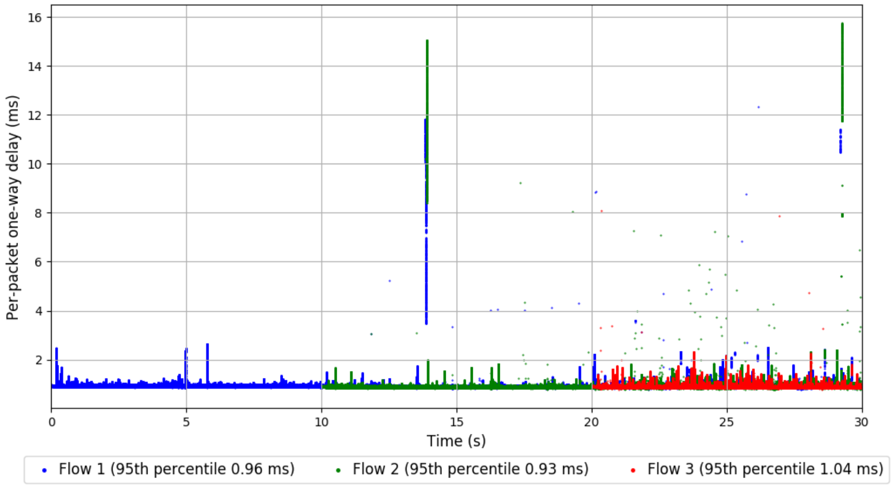
```
Run 7: Statistics of Copa

Start at: 2018-06-30 16:54:06
End at: 2018-06-30 16:54:36
Local clock offset: 1.833 ms
Remote clock offset: 3.079 ms

# Below is generated by plot.py at 2018-06-30 19:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 489.54 Mbit/s
95th percentile per-packet one-way delay: 0.957 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 295.22 Mbit/s
95th percentile per-packet one-way delay: 0.959 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 242.08 Mbit/s
95th percentile per-packet one-way delay: 0.931 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 100.14 Mbit/s
95th percentile per-packet one-way delay: 1.043 ms
Loss rate: 0.21%
```

Run 7: Report of Copa — Data Link



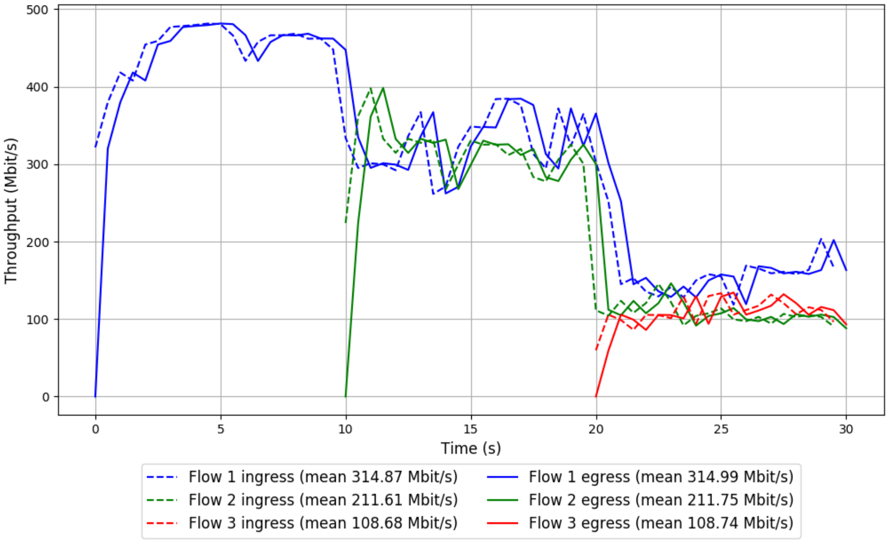


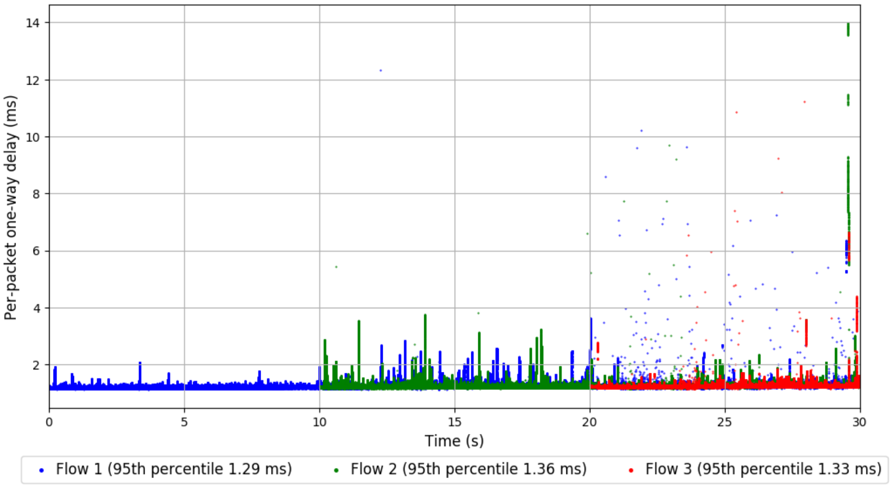
```
Run 8: Statistics of Copa

Start at: 2018-06-30 17:20:47
End at: 2018-06-30 17:21:17
Local clock offset: 1.949 ms
Remote clock offset: 3.461 ms

# Below is generated by plot.py at 2018-06-30 19:21:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 492.08 Mbit/s
95th percentile per-packet one-way delay: 1.306 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 314.99 Mbit/s
95th percentile per-packet one-way delay: 1.290 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 211.75 Mbit/s
95th percentile per-packet one-way delay: 1.357 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 108.74 Mbit/s
95th percentile per-packet one-way delay: 1.326 ms
Loss rate: 0.19%
```

Run 8: Report of Copa — Data Link



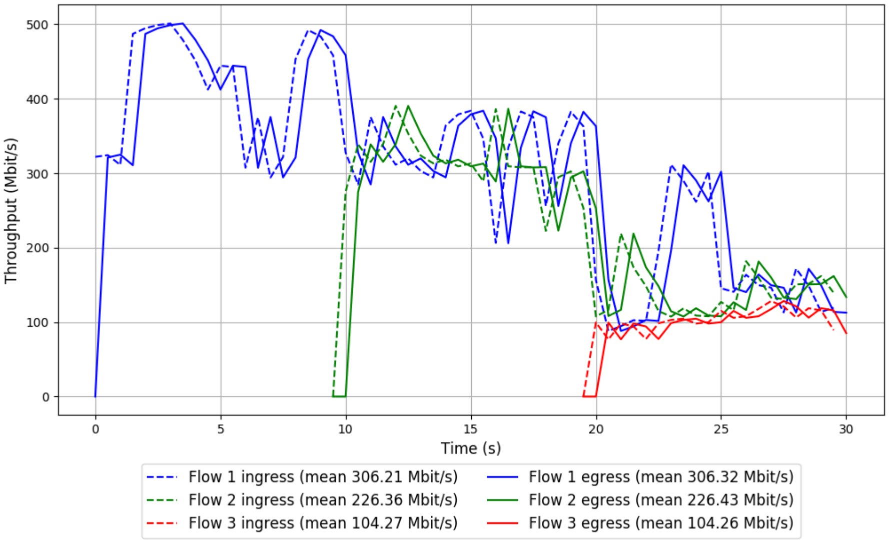


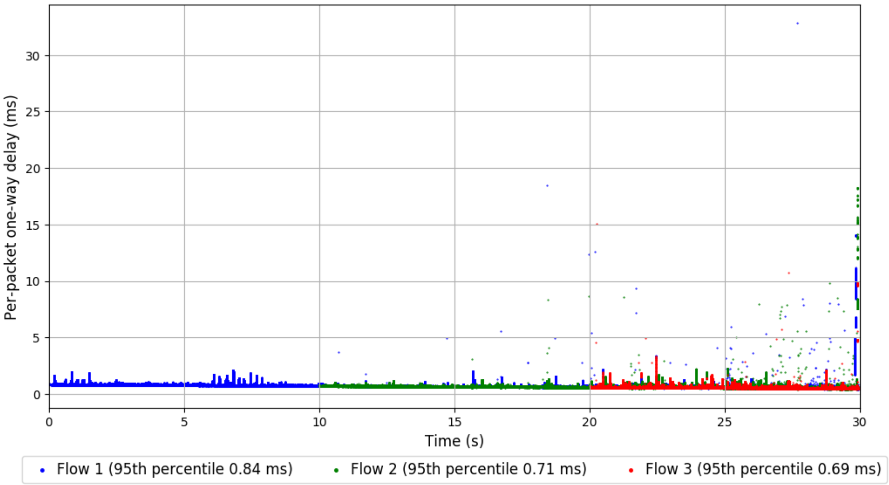
```
Run 9: Statistics of Copa

Start at: 2018-06-30 17:47:25
End at: 2018-06-30 17:47:55
Local clock offset: 0.777 ms
Remote clock offset: 2.665 ms

# Below is generated by plot.py at 2018-06-30 19:21:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.76 Mbit/s
95th percentile per-packet one-way delay: 0.826 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 306.32 Mbit/s
95th percentile per-packet one-way delay: 0.836 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 226.43 Mbit/s
95th percentile per-packet one-way delay: 0.712 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 104.26 Mbit/s
95th percentile per-packet one-way delay: 0.688 ms
Loss rate: 0.20%
```

Run 9: Report of Copa — Data Link



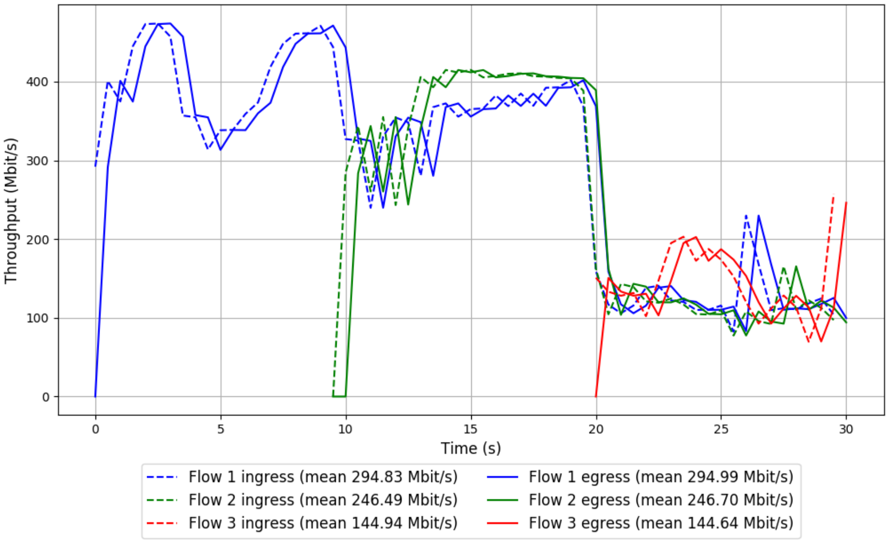


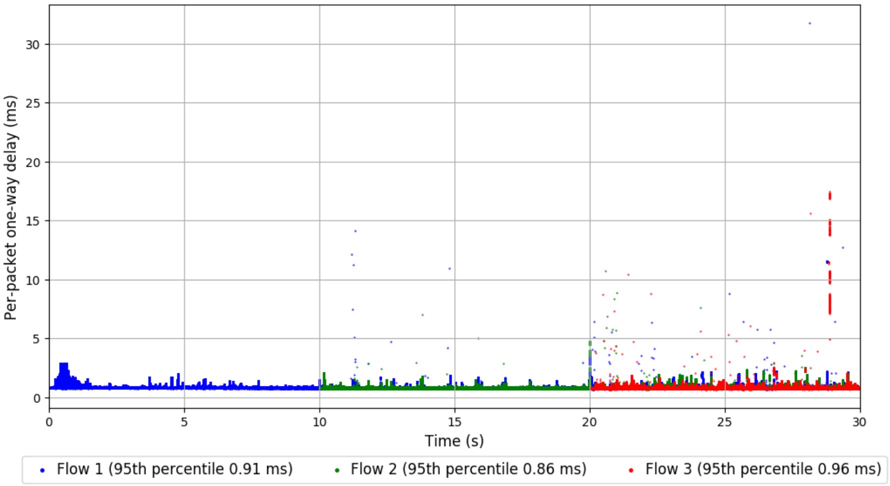
```
Run 10: Statistics of Copa

Start at: 2018-06-30 18:13:47
End at: 2018-06-30 18:14:17
Local clock offset: 3.98 ms
Remote clock offset: -0.878 ms

# Below is generated by plot.py at 2018-06-30 19:21:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 507.26 Mbit/s
95th percentile per-packet one-way delay: 0.899 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 294.99 Mbit/s
95th percentile per-packet one-way delay: 0.905 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 246.70 Mbit/s
95th percentile per-packet one-way delay: 0.864 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 144.64 Mbit/s
95th percentile per-packet one-way delay: 0.963 ms
Loss rate: 0.40%
```

Run 10: Report of Copa — Data Link



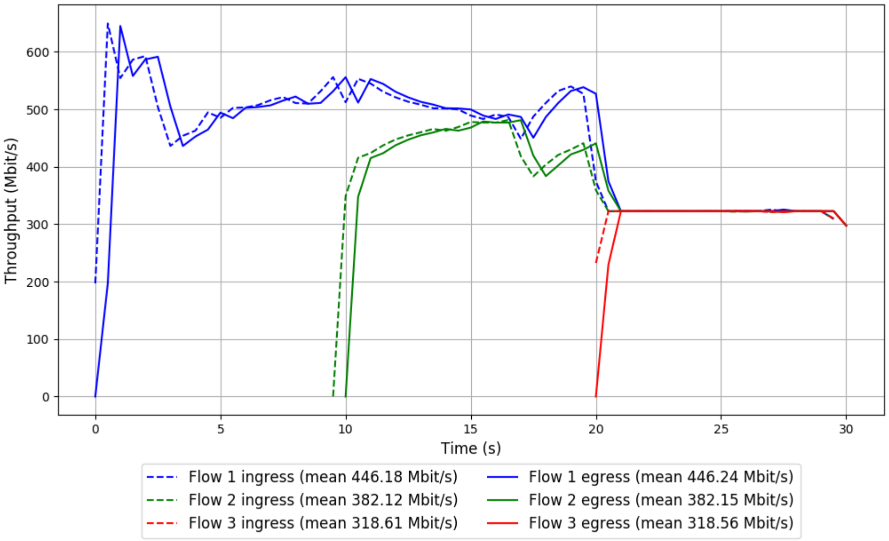


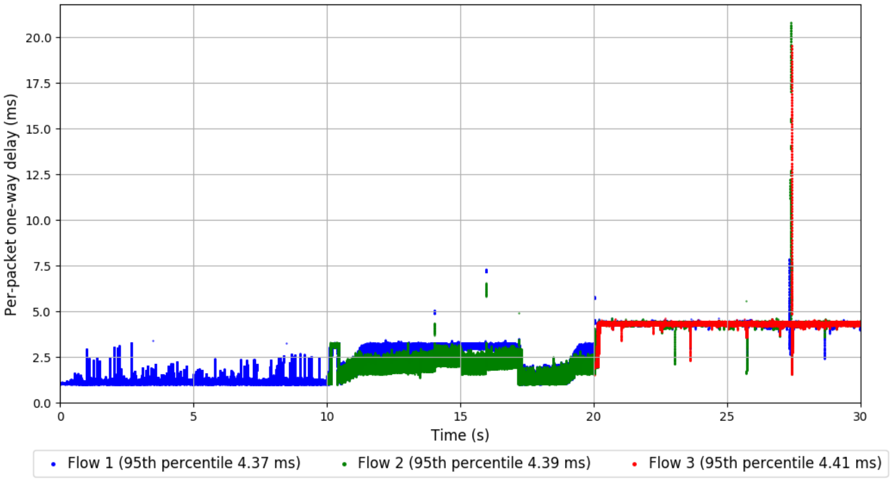
```
Run 1: Statistics of TCP Cubic

Start at: 2018-06-30 14:28:59
End at: 2018-06-30 14:29:29
Local clock offset: 3.23 ms
Remote clock offset: 2.807 ms

# Below is generated by plot.py at 2018-06-30 19:21:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 806.55 Mbit/s
95th percentile per-packet one-way delay: 4.389 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 446.24 Mbit/s
95th percentile per-packet one-way delay: 4.371 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 382.15 Mbit/s
95th percentile per-packet one-way delay: 4.390 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.56 Mbit/s
95th percentile per-packet one-way delay: 4.410 ms
Loss rate: 0.24%
```

Run 1: Report of TCP Cubic — Data Link



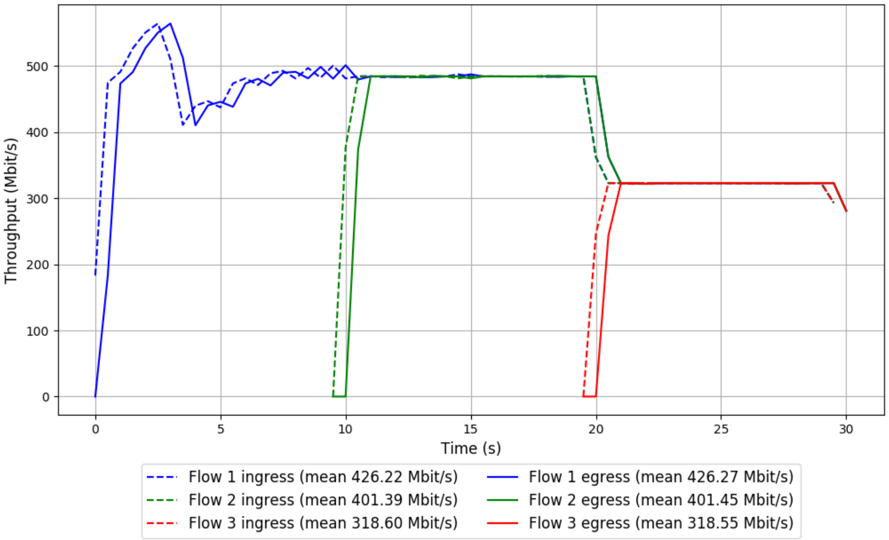


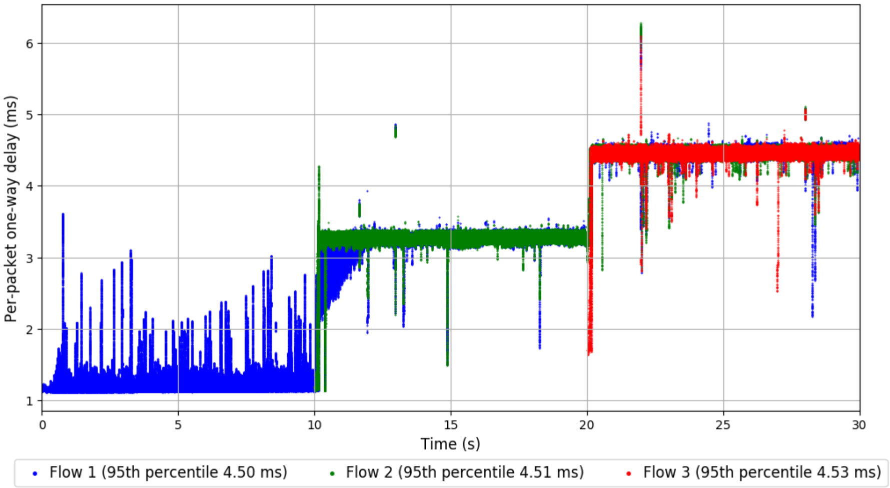
```
Run 2: Statistics of TCP Cubic

Start at: 2018-06-30 14:55:37
End at: 2018-06-30 14:56:07
Local clock offset: 0.849 ms
Remote clock offset: 3.039 ms

# Below is generated by plot.py at 2018-06-30 19:21:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 799.53 Mbit/s
95th percentile per-packet one-way delay: 4.509 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 426.27 Mbit/s
95th percentile per-packet one-way delay: 4.495 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 401.45 Mbit/s
95th percentile per-packet one-way delay: 4.506 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.55 Mbit/s
95th percentile per-packet one-way delay: 4.533 ms
Loss rate: 0.24%
```

Run 2: Report of TCP Cubic — Data Link



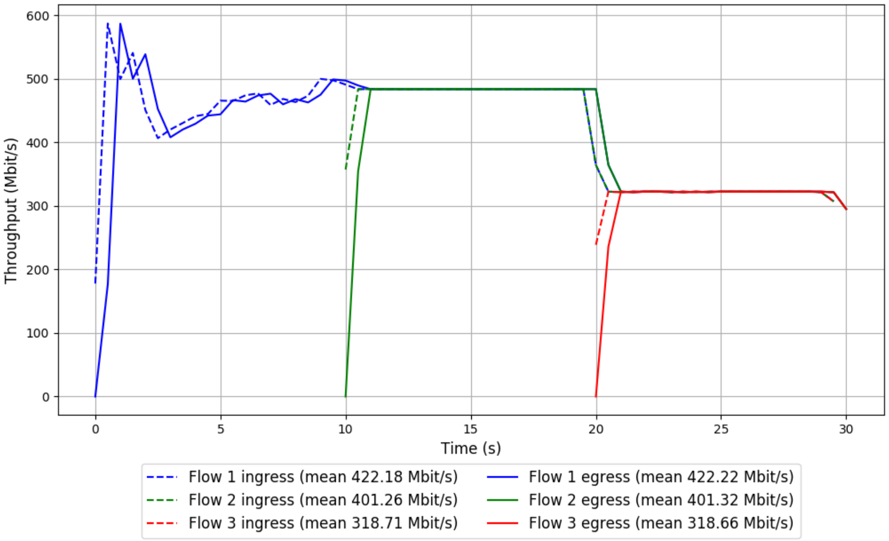


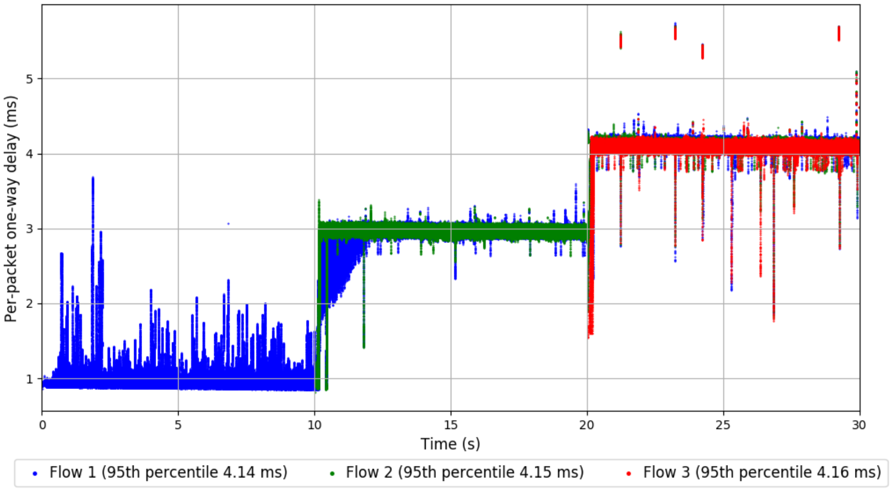
```
Run 3: Statistics of TCP Cubic

Start at: 2018-06-30 15:22:16
End at: 2018-06-30 15:22:46
Local clock offset: 1.715 ms
Remote clock offset: 3.284 ms

# Below is generated by plot.py at 2018-06-30 19:21:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 795.24 Mbit/s
95th percentile per-packet one-way delay: 4.152 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 422.22 Mbit/s
95th percentile per-packet one-way delay: 4.144 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 401.32 Mbit/s
95th percentile per-packet one-way delay: 4.153 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.66 Mbit/s
95th percentile per-packet one-way delay: 4.162 ms
Loss rate: 0.23%
```

Run 3: Report of TCP Cubic — Data Link



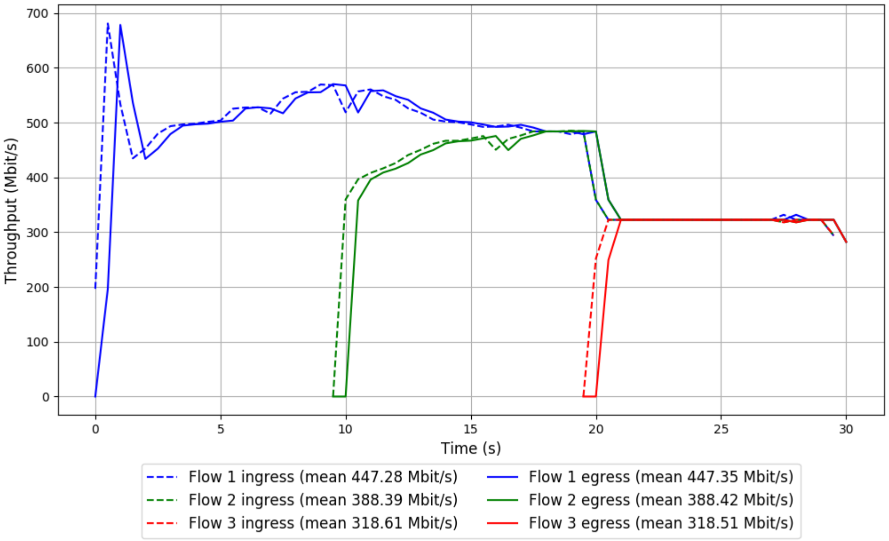


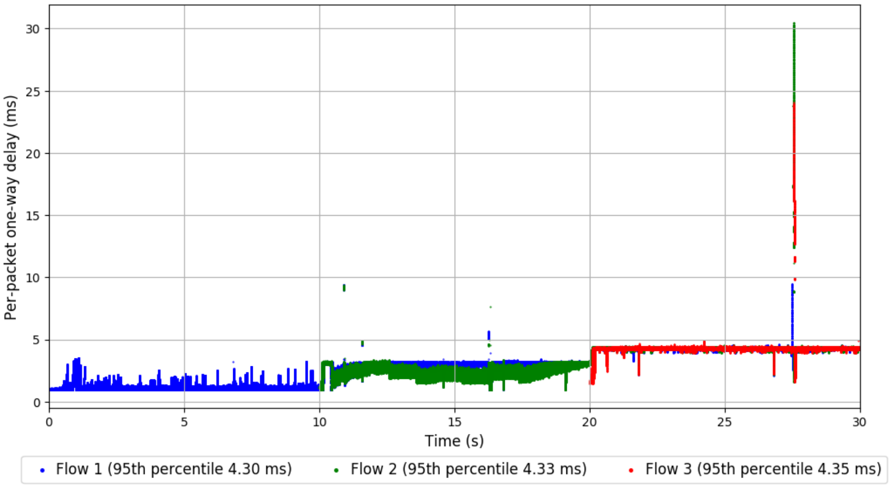
```
Run 4: Statistics of TCP Cubic

Start at: 2018-06-30 15:48:49
End at: 2018-06-30 15:49:19
Local clock offset: 3.563 ms
Remote clock offset: -0.309 ms

# Below is generated by plot.py at 2018-06-30 19:21:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 812.06 Mbit/s
95th percentile per-packet one-way delay: 4.326 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 447.35 Mbit/s
95th percentile per-packet one-way delay: 4.302 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 388.42 Mbit/s
95th percentile per-packet one-way delay: 4.331 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 318.51 Mbit/s
95th percentile per-packet one-way delay: 4.354 ms
Loss rate: 0.23%
```

Run 4: Report of TCP Cubic — Data Link



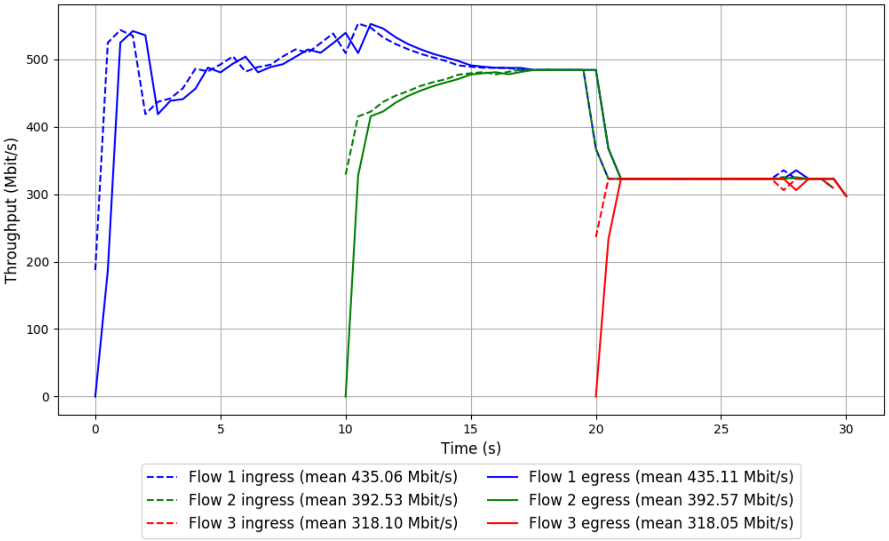


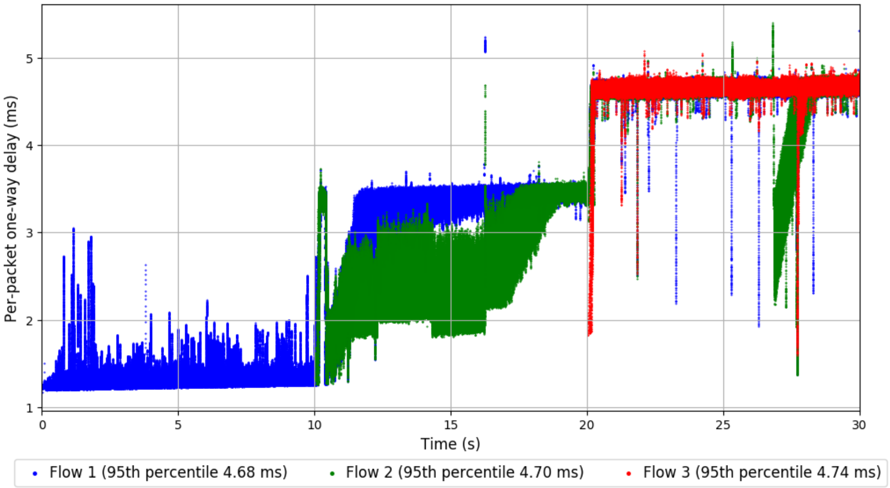
```
Run 5: Statistics of TCP Cubic

Start at: 2018-06-30 16:15:16
End at: 2018-06-30 16:15:46
Local clock offset: 3.332 ms
Remote clock offset: -0.356 ms

# Below is generated by plot.py at 2018-06-30 19:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 802.12 Mbit/s
95th percentile per-packet one-way delay: 4.702 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 435.11 Mbit/s
95th percentile per-packet one-way delay: 4.678 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 392.57 Mbit/s
95th percentile per-packet one-way delay: 4.699 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.05 Mbit/s
95th percentile per-packet one-way delay: 4.736 ms
Loss rate: 0.23%
```

Run 5: Report of TCP Cubic — Data Link



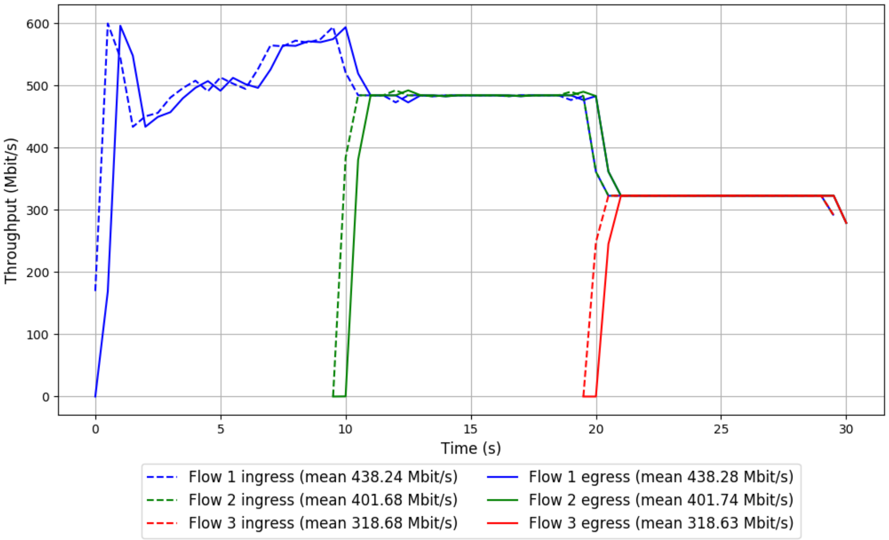


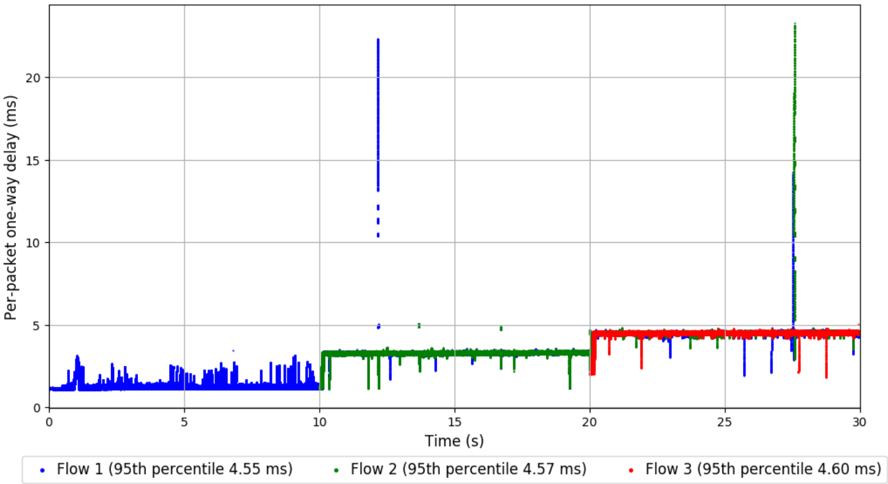
```
Run 6: Statistics of TCP Cubic

Start at: 2018-06-30 16:41:45
End at: 2018-06-30 16:42:15
Local clock offset: -0.378 ms
Remote clock offset: 1.265 ms

# Below is generated by plot.py at 2018-06-30 19:28:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 811.88 Mbit/s
95th percentile per-packet one-way delay: 4.568 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 438.28 Mbit/s
95th percentile per-packet one-way delay: 4.547 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 401.74 Mbit/s
95th percentile per-packet one-way delay: 4.566 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.63 Mbit/s
95th percentile per-packet one-way delay: 4.598 ms
Loss rate: 0.24%
```

Run 6: Report of TCP Cubic — Data Link



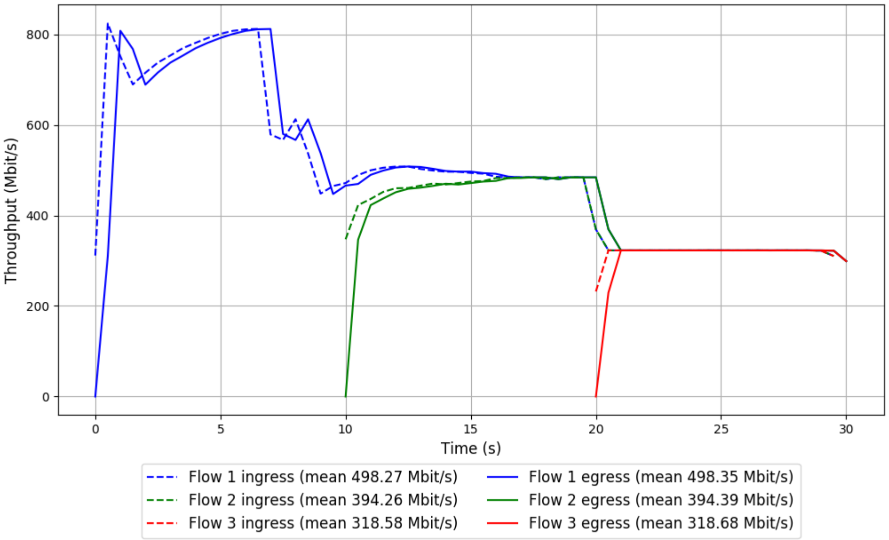


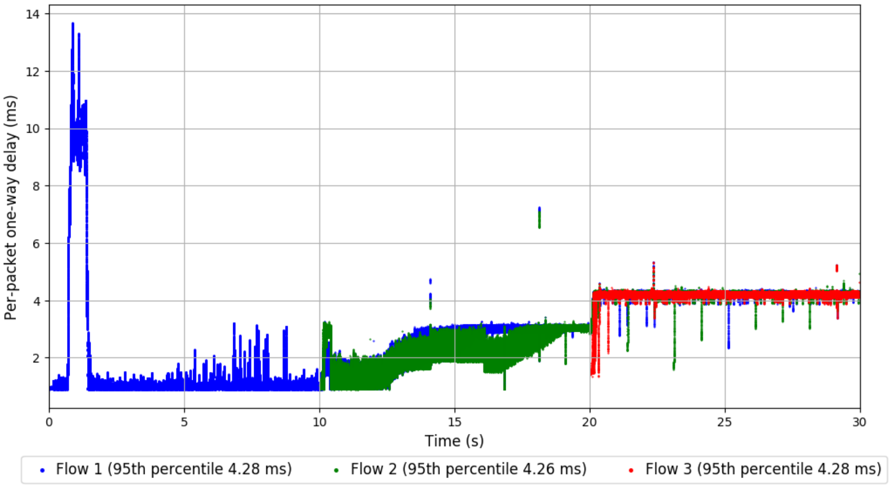
```
Run 7: Statistics of TCP Cubic

Start at: 2018-06-30 17:08:24
End at: 2018-06-30 17:08:54
Local clock offset: 3.139 ms
Remote clock offset: 4.048 ms

# Below is generated by plot.py at 2018-06-30 19:29:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 866.75 Mbit/s
95th percentile per-packet one-way delay: 4.270 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 498.35 Mbit/s
95th percentile per-packet one-way delay: 4.284 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 394.39 Mbit/s
95th percentile per-packet one-way delay: 4.256 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.68 Mbit/s
95th percentile per-packet one-way delay: 4.275 ms
Loss rate: 0.22%
```

Run 7: Report of TCP Cubic — Data Link



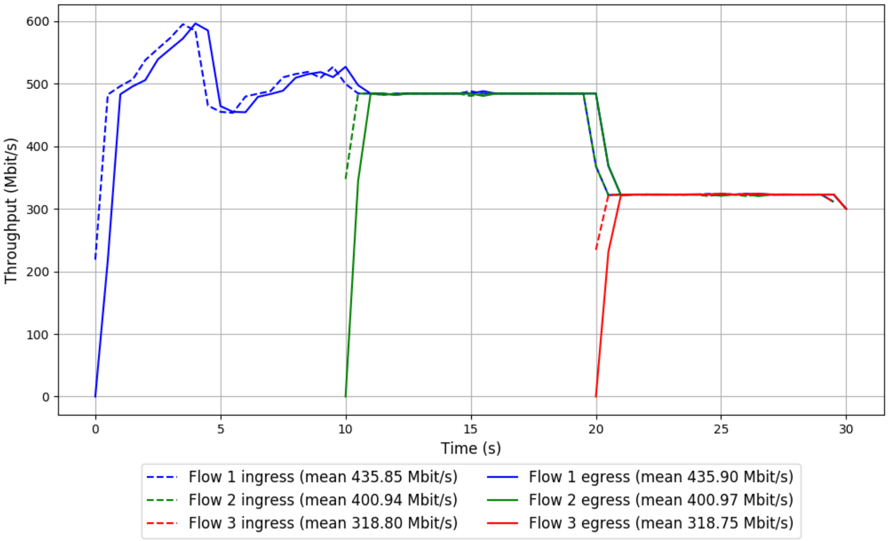


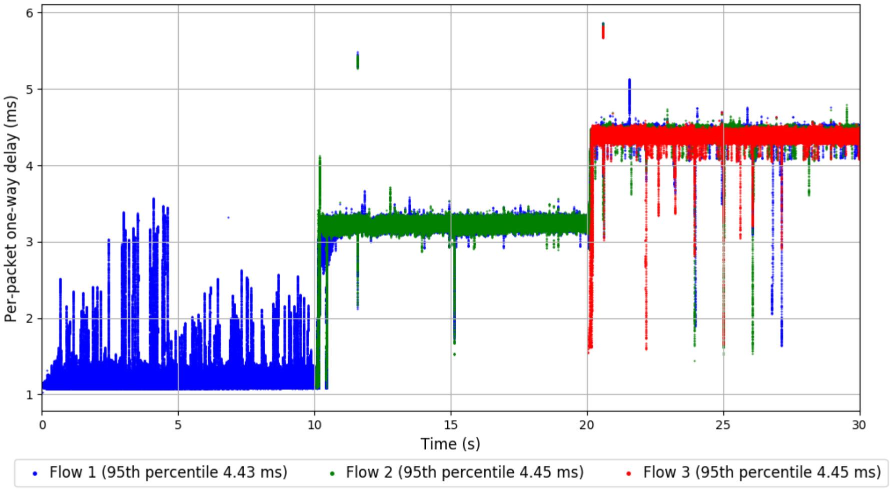
```
Run 8: Statistics of TCP Cubic

Start at: 2018-06-30 17:35:01
End at: 2018-06-30 17:35:31
Local clock offset: 0.371 ms
Remote clock offset: 3.418 ms

# Below is generated by plot.py at 2018-06-30 19:29:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 808.77 Mbit/s
95th percentile per-packet one-way delay: 4.439 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 435.90 Mbit/s
95th percentile per-packet one-way delay: 4.426 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 400.97 Mbit/s
95th percentile per-packet one-way delay: 4.447 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.75 Mbit/s
95th percentile per-packet one-way delay: 4.452 ms
Loss rate: 0.22%
```

Run 8: Report of TCP Cubic — Data Link



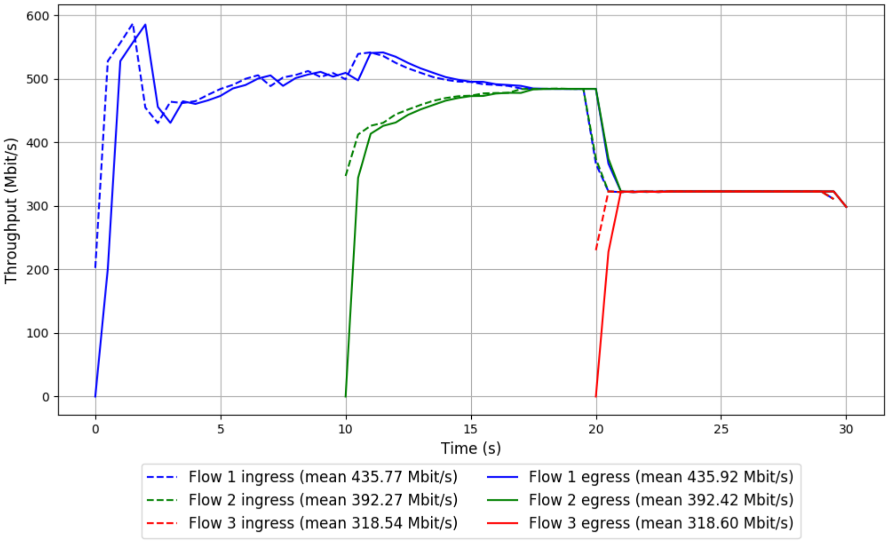


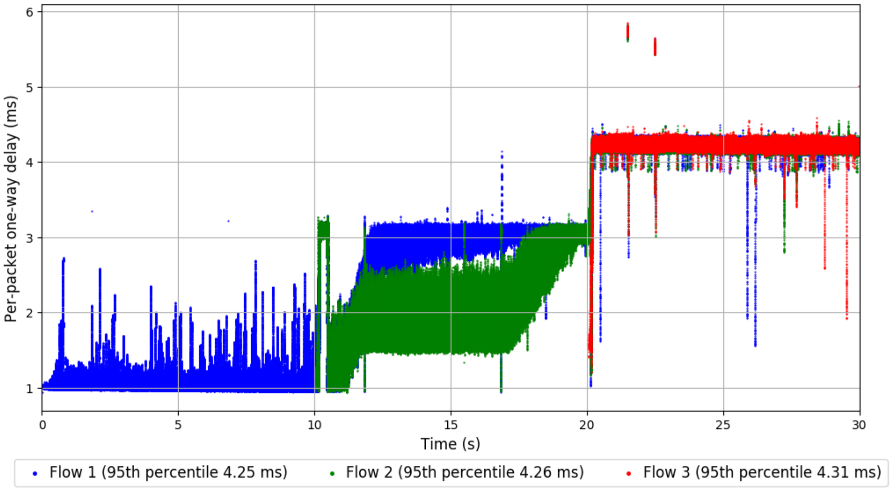
```
Run 9: Statistics of TCP Cubic

Start at: 2018-06-30 18:01:29
End at: 2018-06-30 18:01:59
Local clock offset: 3.373 ms
Remote clock offset: -0.144 ms

# Below is generated by plot.py at 2018-06-30 19:29:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 802.94 Mbit/s
95th percentile per-packet one-way delay: 4.271 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 435.92 Mbit/s
95th percentile per-packet one-way delay: 4.249 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 392.42 Mbit/s
95th percentile per-packet one-way delay: 4.261 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 318.60 Mbit/s
95th percentile per-packet one-way delay: 4.310 ms
Loss rate: 0.24%
```

Run 9: Report of TCP Cubic — Data Link



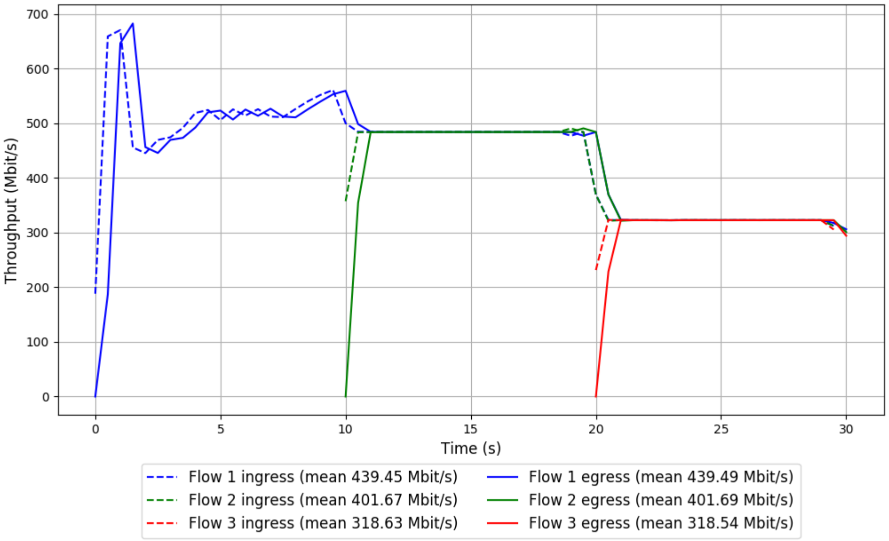


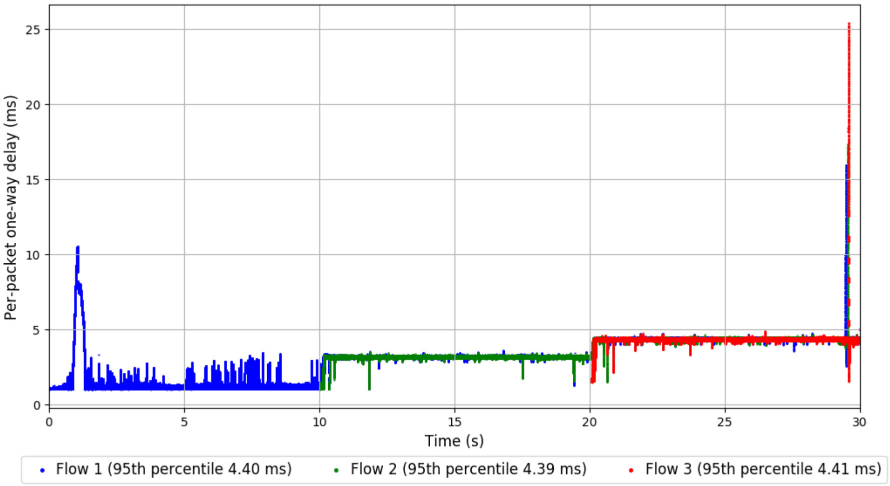
```
Run 10: Statistics of TCP Cubic

Start at: 2018-06-30 18:28:04
End at: 2018-06-30 18:28:34
Local clock offset: 3.635 ms
Remote clock offset: -0.812 ms

# Below is generated by plot.py at 2018-06-30 19:30:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 812.70 Mbit/s
95th percentile per-packet one-way delay: 4.399 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 439.49 Mbit/s
95th percentile per-packet one-way delay: 4.399 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 401.69 Mbit/s
95th percentile per-packet one-way delay: 4.393 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.54 Mbit/s
95th percentile per-packet one-way delay: 4.407 ms
Loss rate: 0.22%
```

Run 10: Report of TCP Cubic — Data Link



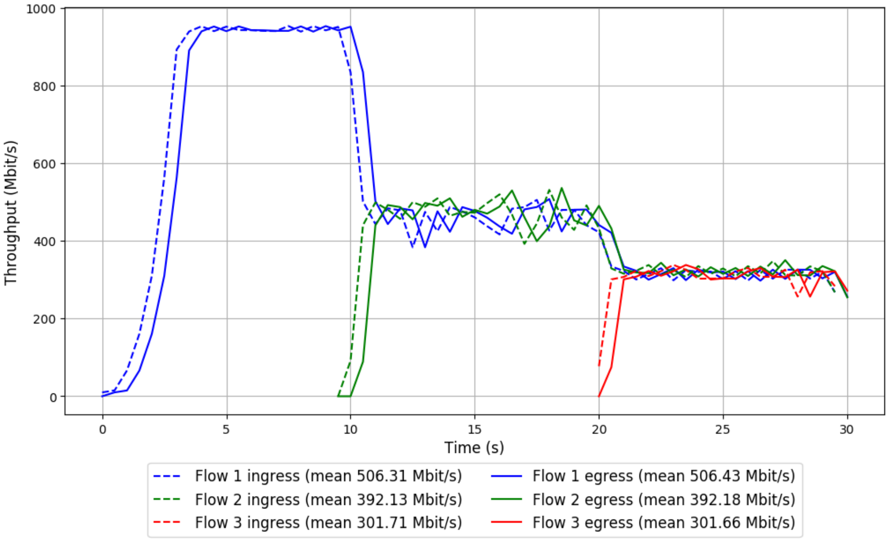


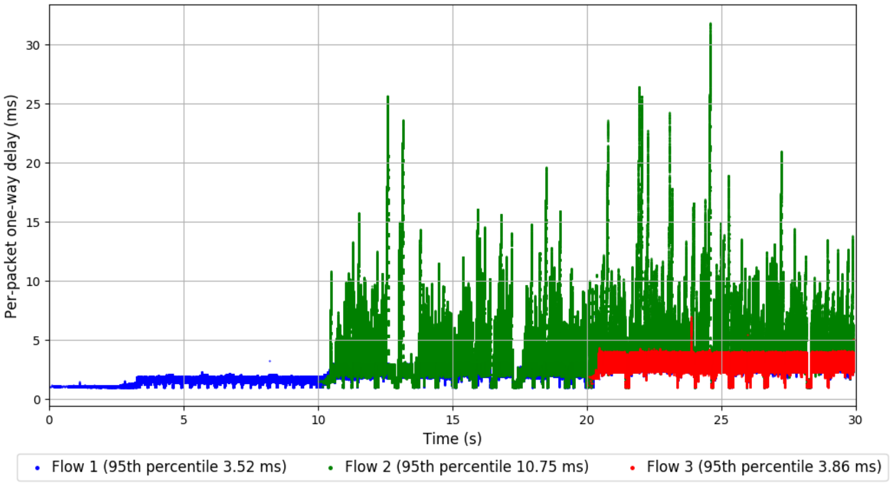
```
Run 1: Statistics of FillP

Start at: 2018-06-30 14:30:45
End at: 2018-06-30 14:31:15
Local clock offset: 3.212 ms
Remote clock offset: 2.784 ms

# Below is generated by plot.py at 2018-06-30 19:33:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 867.39 Mbit/s
95th percentile per-packet one-way delay: 7.123 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 506.43 Mbit/s
95th percentile per-packet one-way delay: 3.521 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 392.18 Mbit/s
95th percentile per-packet one-way delay: 10.749 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 301.66 Mbit/s
95th percentile per-packet one-way delay: 3.858 ms
Loss rate: 0.23%
```

Run 1: Report of FillP — Data Link



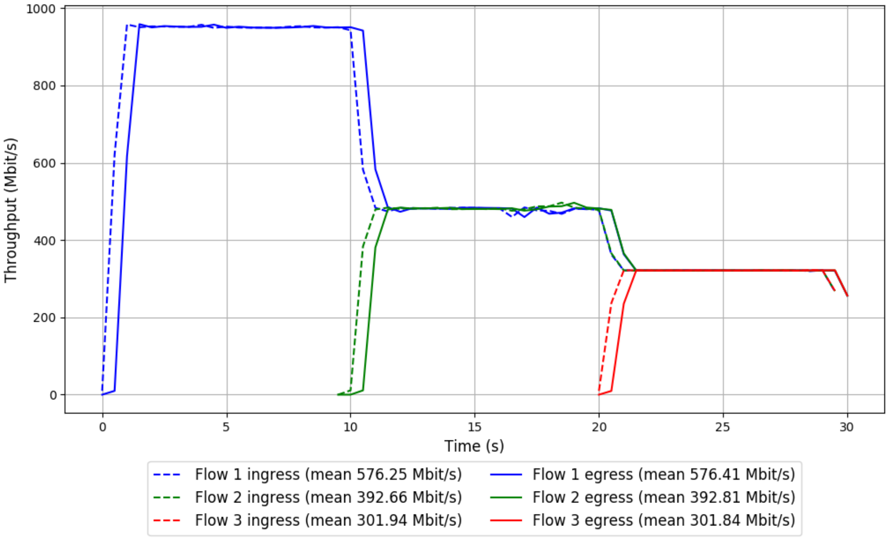


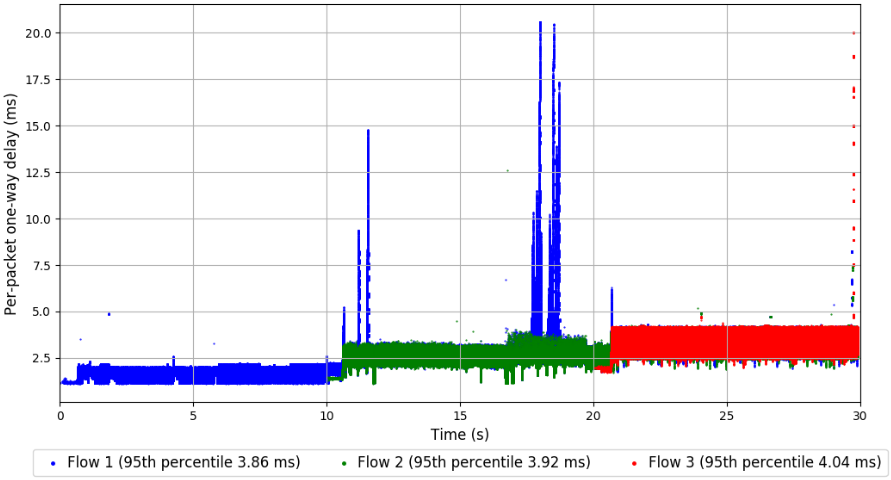
```
Run 2: Statistics of FillP

Start at: 2018-06-30 14:57:22
End at: 2018-06-30 14:57:52
Local clock offset: 0.646 ms
Remote clock offset: 3.002 ms

# Below is generated by plot.py at 2018-06-30 19:34:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 937.75 Mbit/s
95th percentile per-packet one-way delay: 3.935 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 576.41 Mbit/s
95th percentile per-packet one-way delay: 3.858 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 392.81 Mbit/s
95th percentile per-packet one-way delay: 3.915 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 301.84 Mbit/s
95th percentile per-packet one-way delay: 4.036 ms
Loss rate: 0.24%
```

Run 2: Report of FillP — Data Link



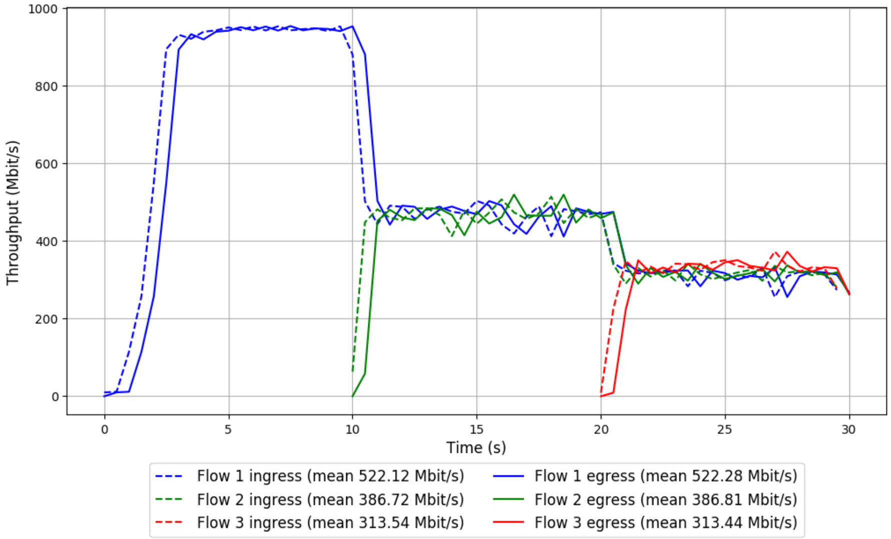


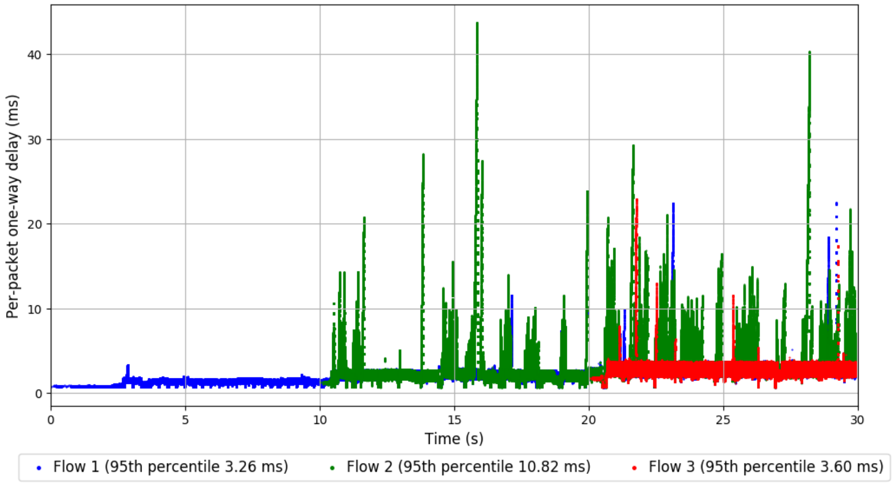
```
Run 3: Statistics of FillP

Start at: 2018-06-30 15:24:00
End at: 2018-06-30 15:24:30
Local clock offset: 1.99 ms
Remote clock offset: 3.323 ms

# Below is generated by plot.py at 2018-06-30 19:40:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 883.29 Mbit/s
95th percentile per-packet one-way delay: 5.657 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 522.28 Mbit/s
95th percentile per-packet one-way delay: 3.257 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 386.81 Mbit/s
95th percentile per-packet one-way delay: 10.822 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 313.44 Mbit/s
95th percentile per-packet one-way delay: 3.596 ms
Loss rate: 0.25%
```

Run 3: Report of FillP — Data Link



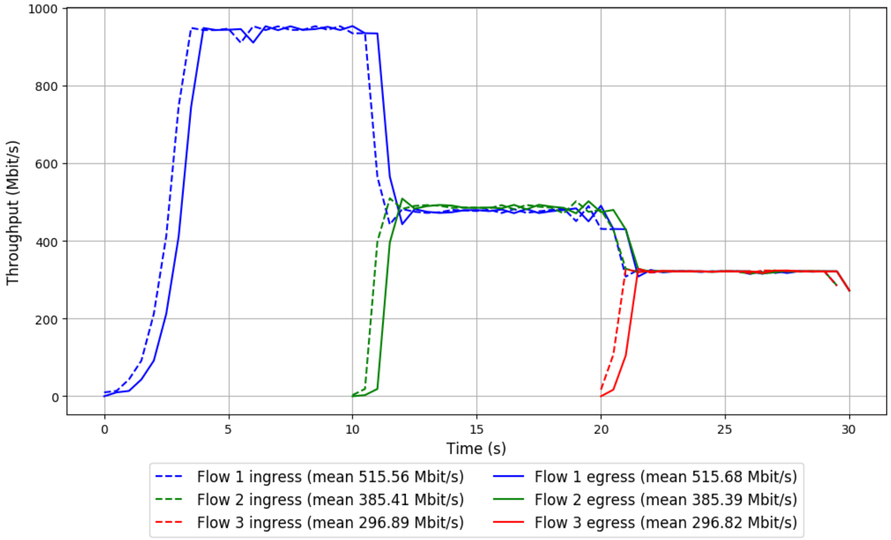


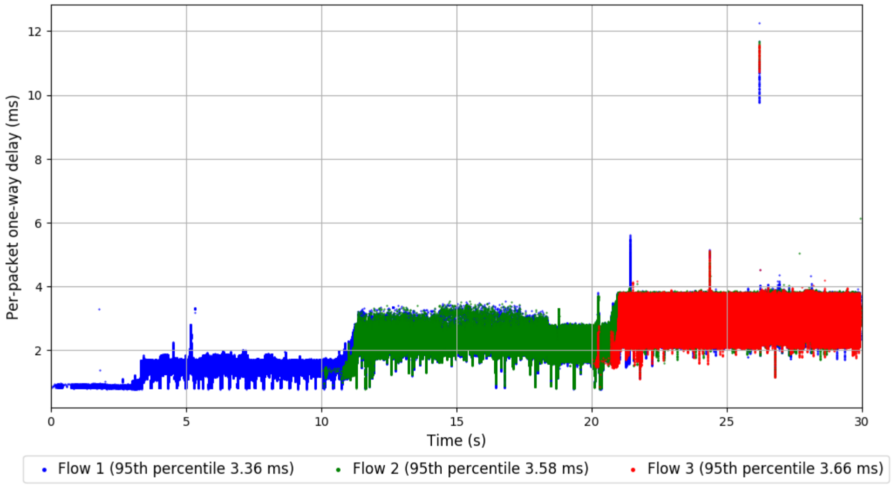
```
Run 4: Statistics of FillP

Start at: 2018-06-30 15:50:33
End at: 2018-06-30 15:51:03
Local clock offset: 3.471 ms
Remote clock offset: -0.307 ms

# Below is generated by plot.py at 2018-06-30 19:40:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 870.00 Mbit/s
95th percentile per-packet one-way delay: 3.539 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 515.68 Mbit/s
95th percentile per-packet one-way delay: 3.357 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 385.39 Mbit/s
95th percentile per-packet one-way delay: 3.578 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 296.82 Mbit/s
95th percentile per-packet one-way delay: 3.664 ms
Loss rate: 0.23%
```

Run 4: Report of FillP — Data Link



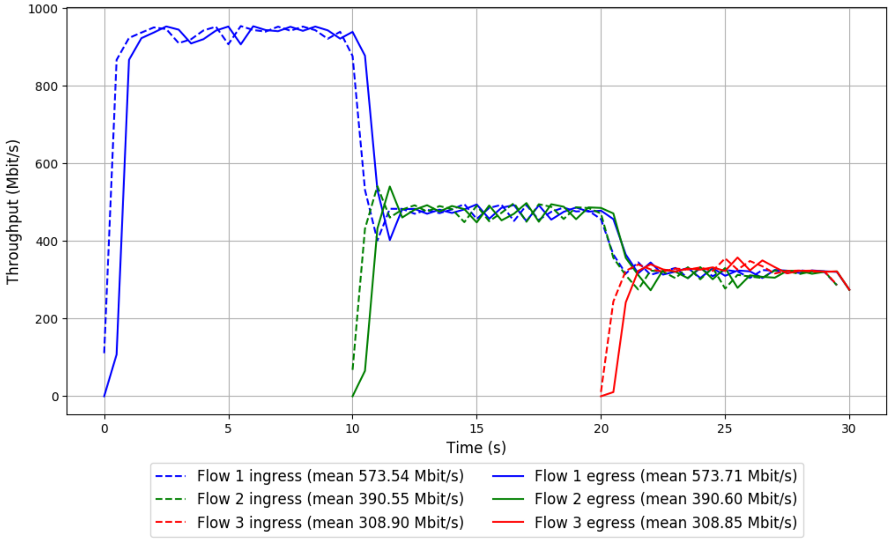


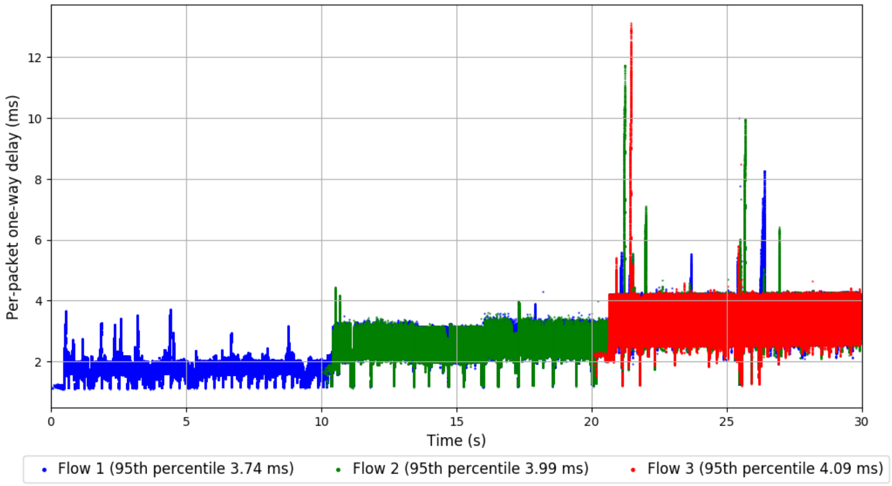
```
Run 5: Statistics of FillP

Start at: 2018-06-30 16:17:00
End at: 2018-06-30 16:17:30
Local clock offset: 2.709 ms
Remote clock offset: -0.314 ms

# Below is generated by plot.py at 2018-06-30 19:41:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 935.92 Mbit/s
95th percentile per-packet one-way delay: 3.943 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 573.71 Mbit/s
95th percentile per-packet one-way delay: 3.736 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 390.60 Mbit/s
95th percentile per-packet one-way delay: 3.987 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 308.85 Mbit/s
95th percentile per-packet one-way delay: 4.092 ms
Loss rate: 0.24%
```

Run 5: Report of FillP — Data Link



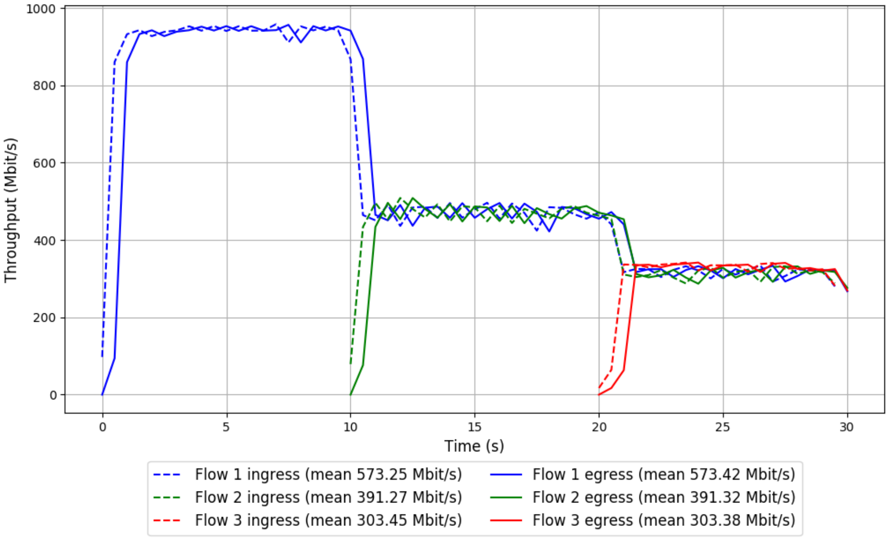


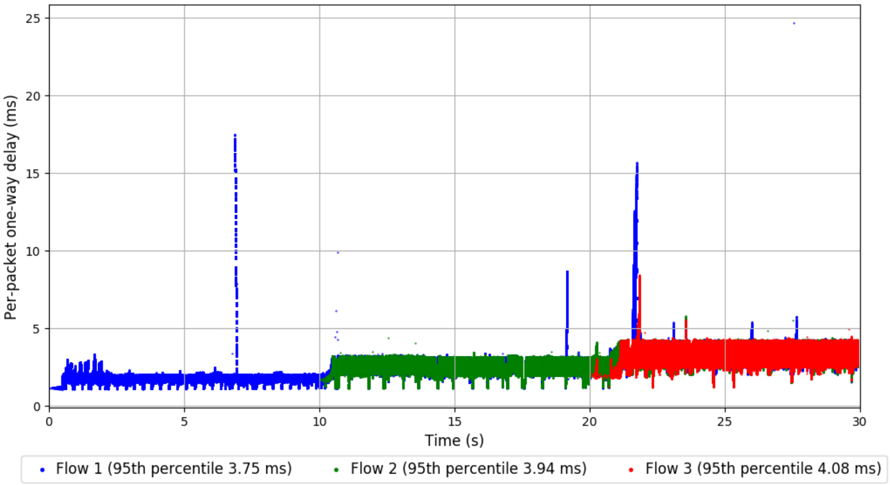
```
Run 6: Statistics of FillP

Start at: 2018-06-30 16:43:30
End at: 2018-06-30 16:44:00
Local clock offset: -0.446 ms
Remote clock offset: 1.624 ms

# Below is generated by plot.py at 2018-06-30 19:41:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 933.75 Mbit/s
95th percentile per-packet one-way delay: 3.931 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 573.42 Mbit/s
95th percentile per-packet one-way delay: 3.752 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 391.32 Mbit/s
95th percentile per-packet one-way delay: 3.945 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 303.38 Mbit/s
95th percentile per-packet one-way delay: 4.084 ms
Loss rate: 0.24%
```

Run 6: Report of FillP — Data Link



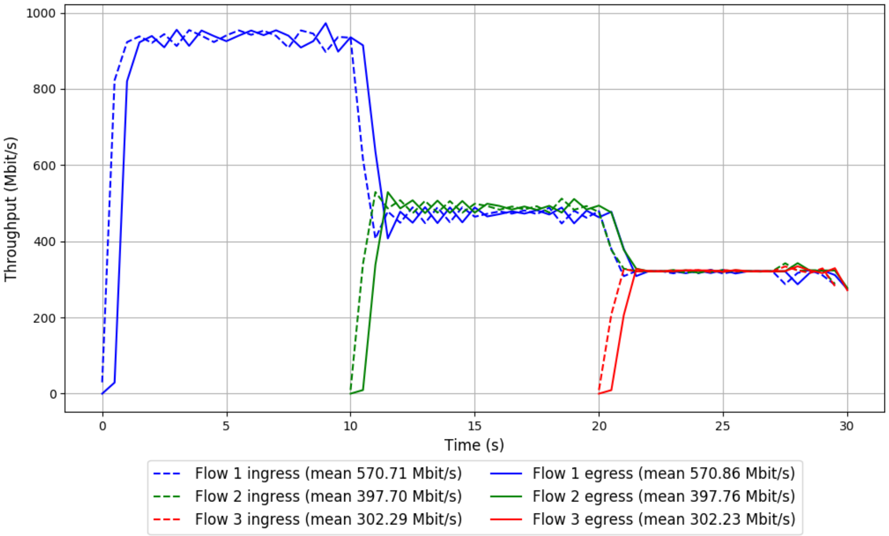


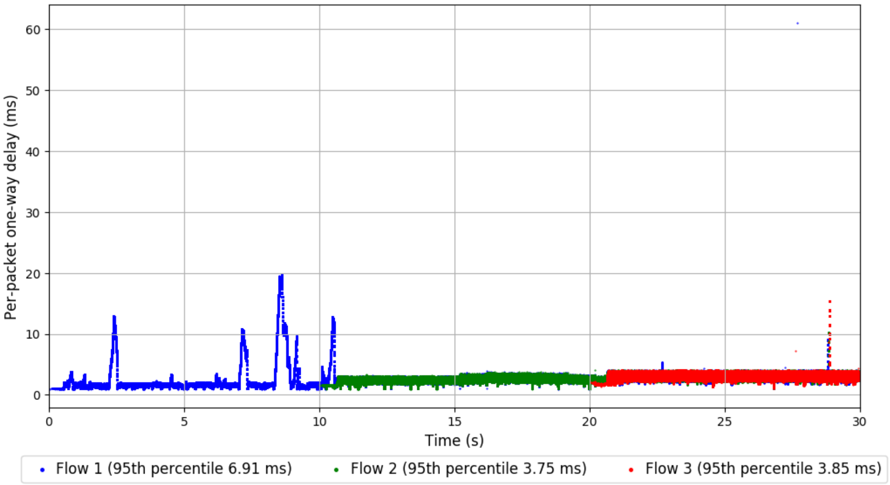
```
Run 7: Statistics of FillP

Start at: 2018-06-30 17:10:10
End at: 2018-06-30 17:10:40
Local clock offset: 3.297 ms
Remote clock offset: 4.115 ms

# Below is generated by plot.py at 2018-06-30 19:42:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 935.43 Mbit/s
95th percentile per-packet one-way delay: 3.944 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 570.86 Mbit/s
95th percentile per-packet one-way delay: 6.910 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 397.76 Mbit/s
95th percentile per-packet one-way delay: 3.748 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 302.23 Mbit/s
95th percentile per-packet one-way delay: 3.854 ms
Loss rate: 0.21%
```

Run 7: Report of FillP — Data Link



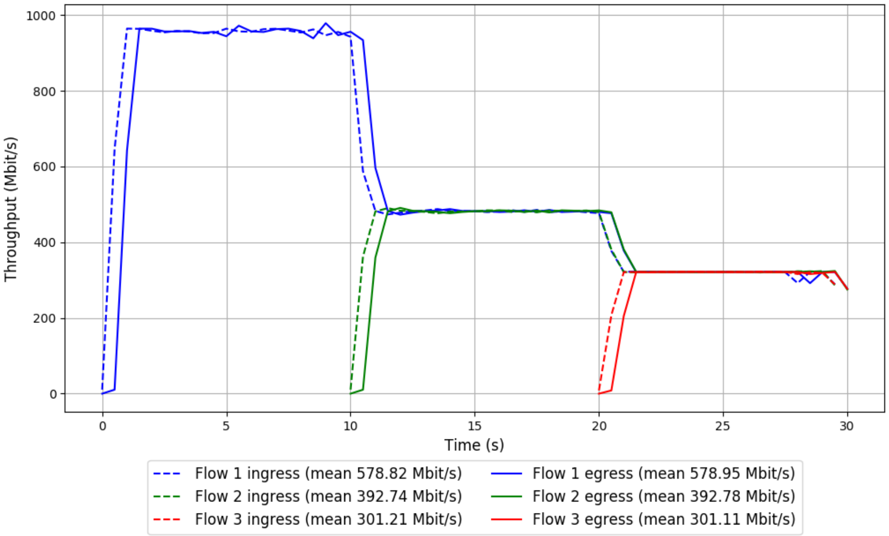


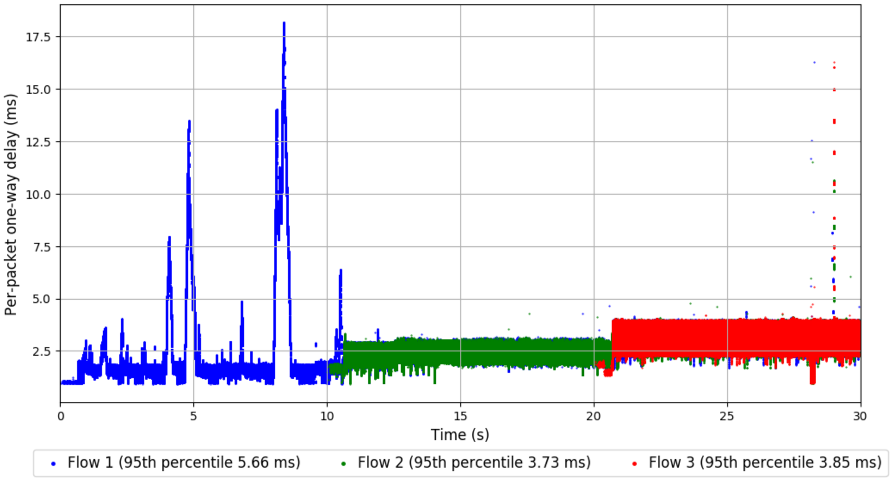
```
Run 8: Statistics of FillP

Start at: 2018-06-30 17:36:45
End at: 2018-06-30 17:37:15
Local clock offset: 0.193 ms
Remote clock offset: 3.434 ms

# Below is generated by plot.py at 2018-06-30 19:43:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 939.69 Mbit/s
95th percentile per-packet one-way delay: 3.875 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 578.95 Mbit/s
95th percentile per-packet one-way delay: 5.664 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 392.78 Mbit/s
95th percentile per-packet one-way delay: 3.734 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 301.11 Mbit/s
95th percentile per-packet one-way delay: 3.847 ms
Loss rate: 0.22%
```

Run 8: Report of FillP — Data Link



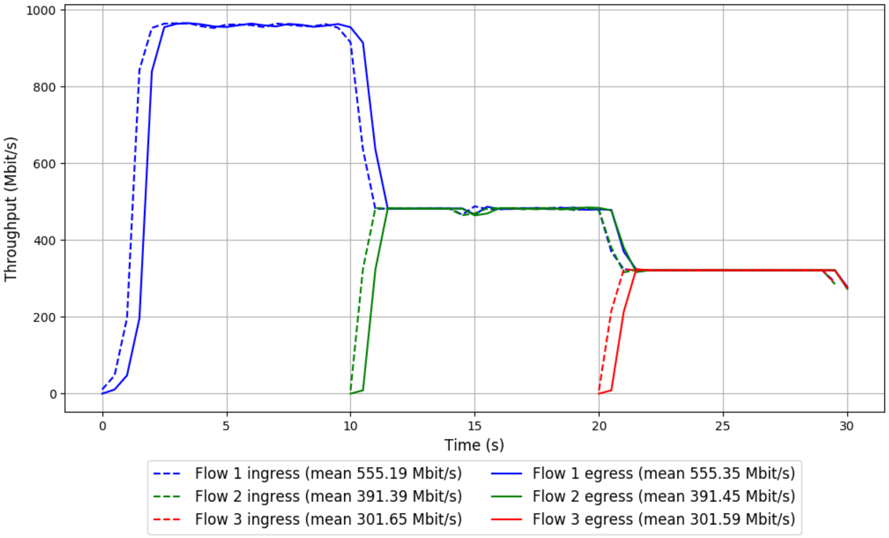


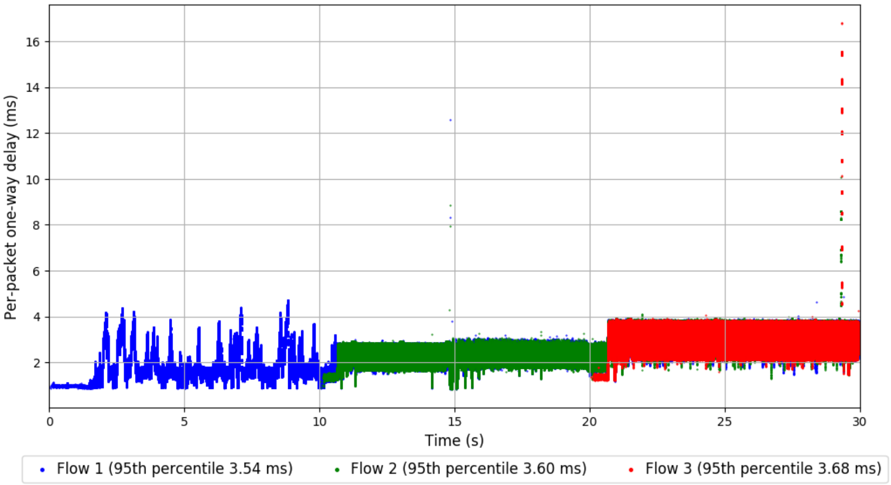
```
Run 9: Statistics of FillP

Start at: 2018-06-30 18:03:14
End at: 2018-06-30 18:03:44
Local clock offset: 3.477 ms
Remote clock offset: -0.27 ms

# Below is generated by plot.py at 2018-06-30 19:46:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 915.05 Mbit/s
95th percentile per-packet one-way delay: 3.603 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 555.35 Mbit/s
95th percentile per-packet one-way delay: 3.541 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 391.45 Mbit/s
95th percentile per-packet one-way delay: 3.603 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 301.59 Mbit/s
95th percentile per-packet one-way delay: 3.684 ms
Loss rate: 0.23%
```

Run 9: Report of FillP — Data Link



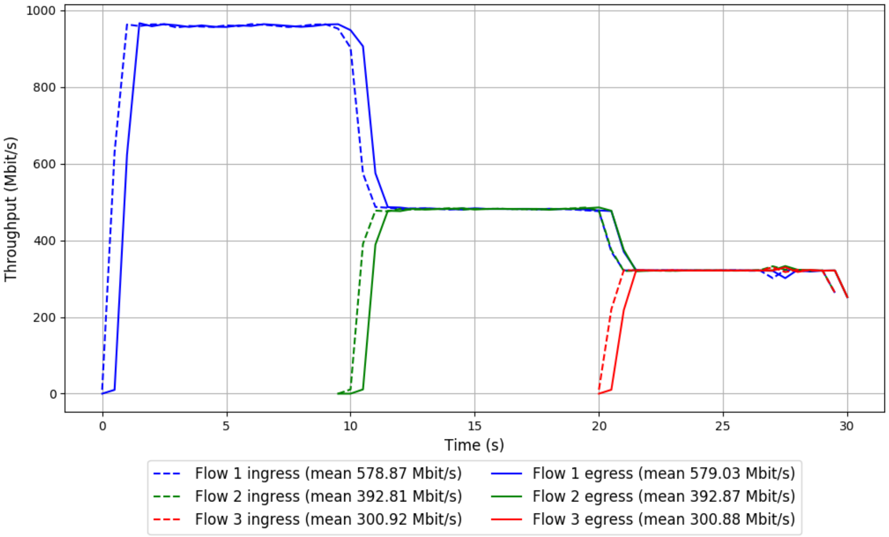


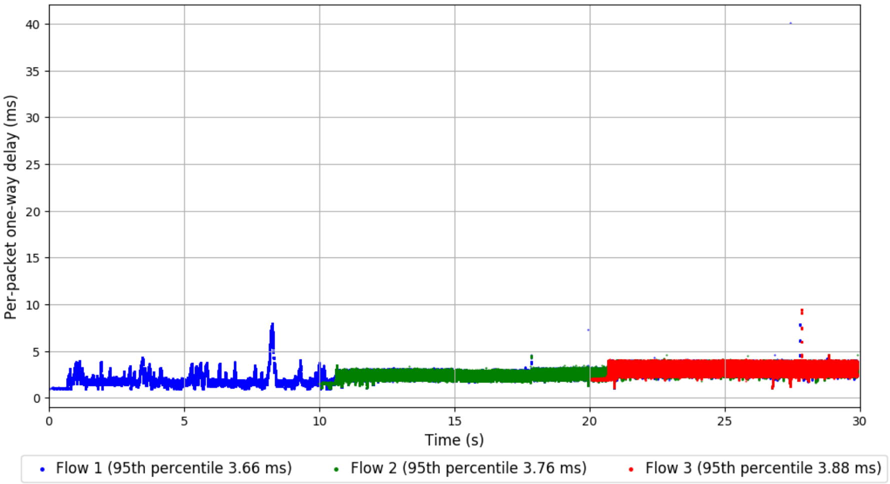
```
Run 10: Statistics of FillP

Start at: 2018-06-30 18:29:49
End at: 2018-06-30 18:30:19
Local clock offset: 3.635 ms
Remote clock offset: -0.787 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 940.24 Mbit/s
95th percentile per-packet one-way delay: 3.759 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 579.03 Mbit/s
95th percentile per-packet one-way delay: 3.661 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 392.87 Mbit/s
95th percentile per-packet one-way delay: 3.759 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 300.88 Mbit/s
95th percentile per-packet one-way delay: 3.876 ms
Loss rate: 0.22%
```

Run 10: Report of FillP — Data Link



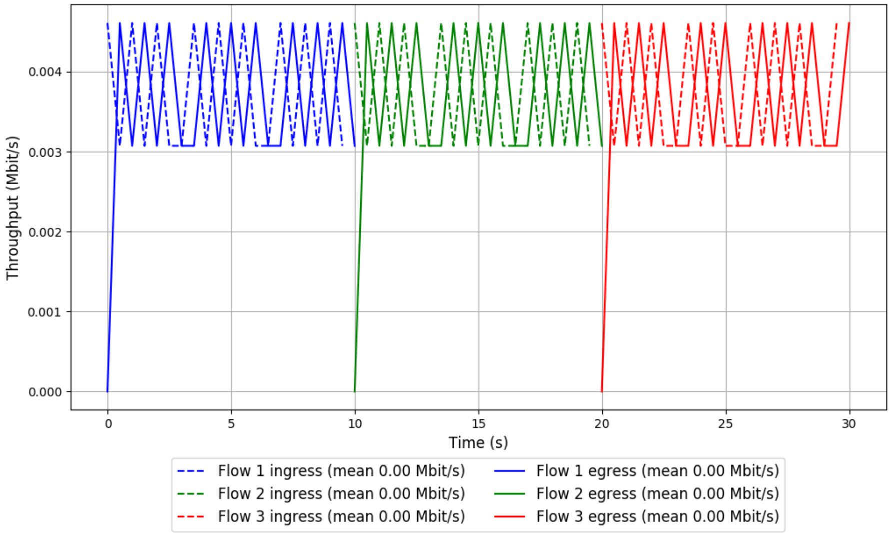


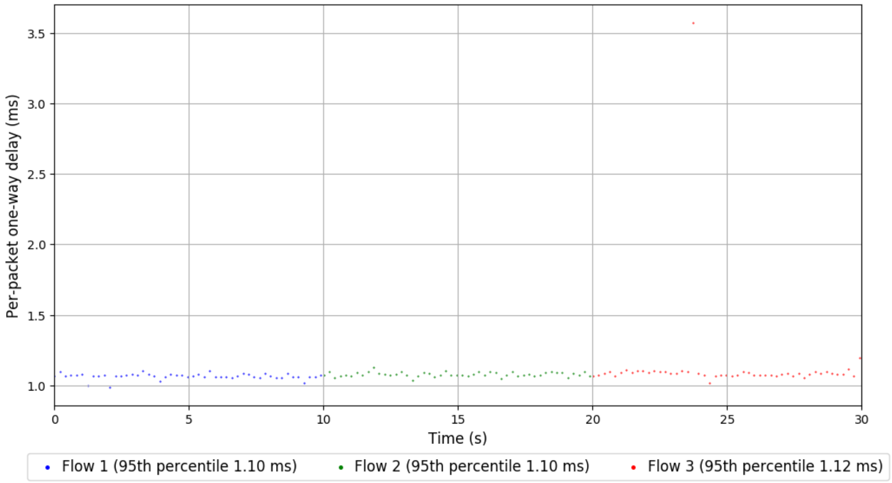
```
Run 1: Statistics of FillP-Sheep

Start at: 2018-06-30 14:11:56
End at: 2018-06-30 14:12:26
Local clock offset: 3.645 ms
Remote clock offset: 3.021 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.105 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.097 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.100 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.118 ms
Loss rate: 0.00%
```

Run 1: Report of FillP-Sheep — Data Link



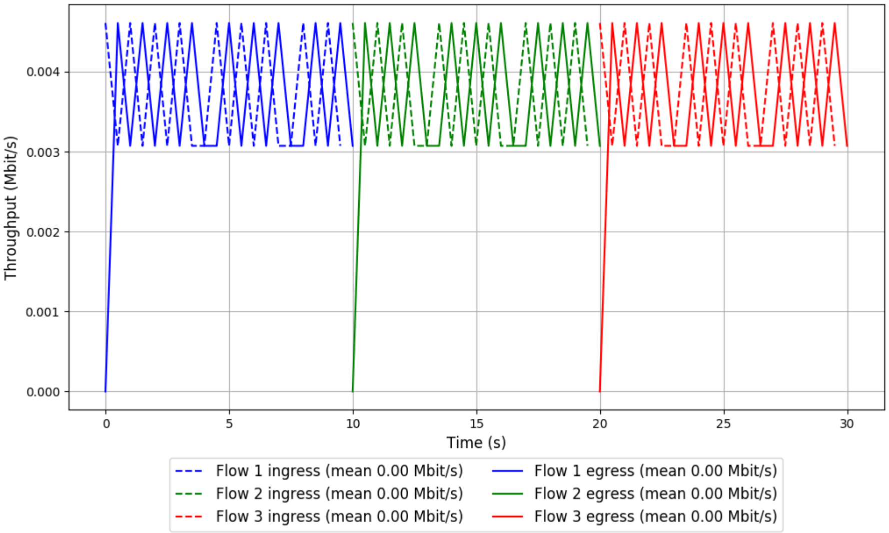


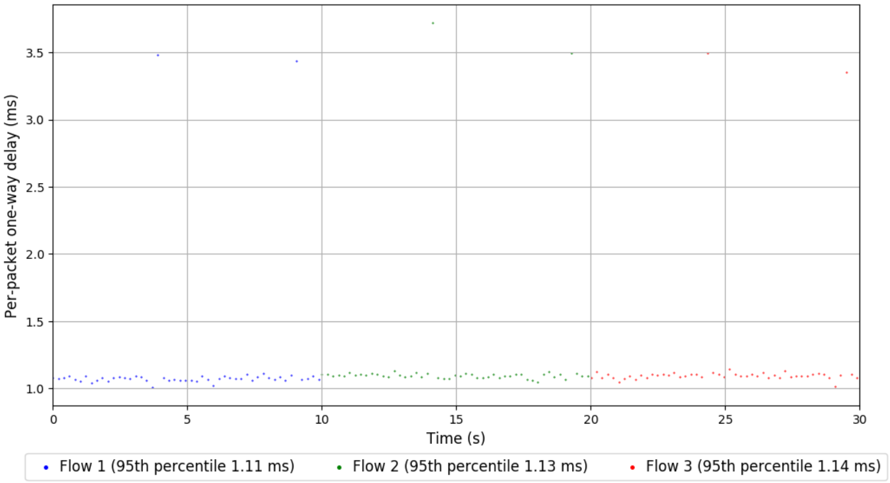
```
Run 2: Statistics of FillP-Sheep

Start at: 2018-06-30 14:38:26
End at: 2018-06-30 14:38:56
Local clock offset: 3.182 ms
Remote clock offset: 2.785 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.130 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.113 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.130 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.144 ms
Loss rate: 0.00%
```

Run 2: Report of FillP-Sheep — Data Link



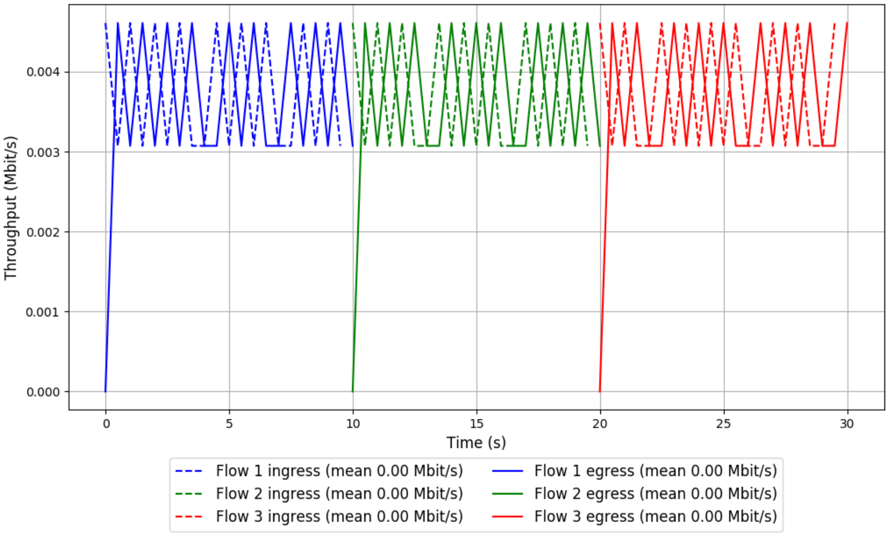


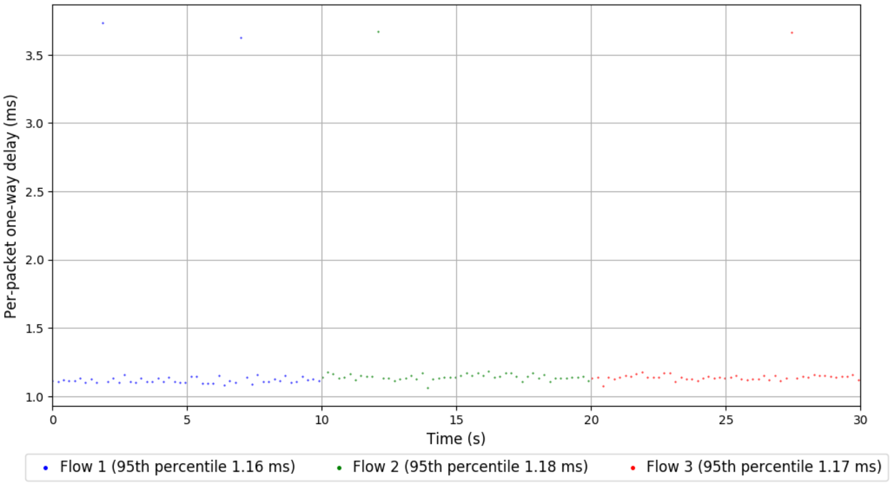
```
Run 3: Statistics of FillP-Sheep

Start at: 2018-06-30 15:05:02
End at: 2018-06-30 15:05:32
Local clock offset: -0.051 ms
Remote clock offset: 3.021 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.156 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.177 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.168 ms
Loss rate: 0.00%
```

Run 3: Report of FillP-Sheep — Data Link



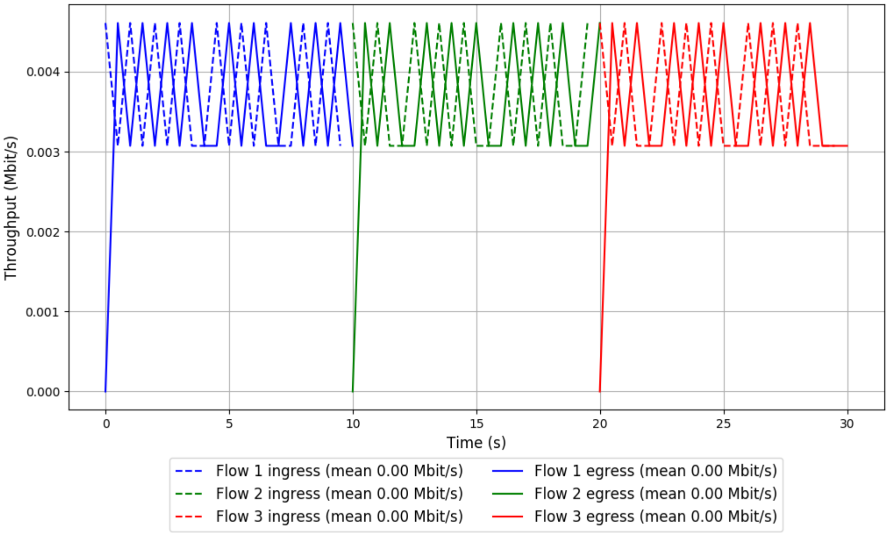


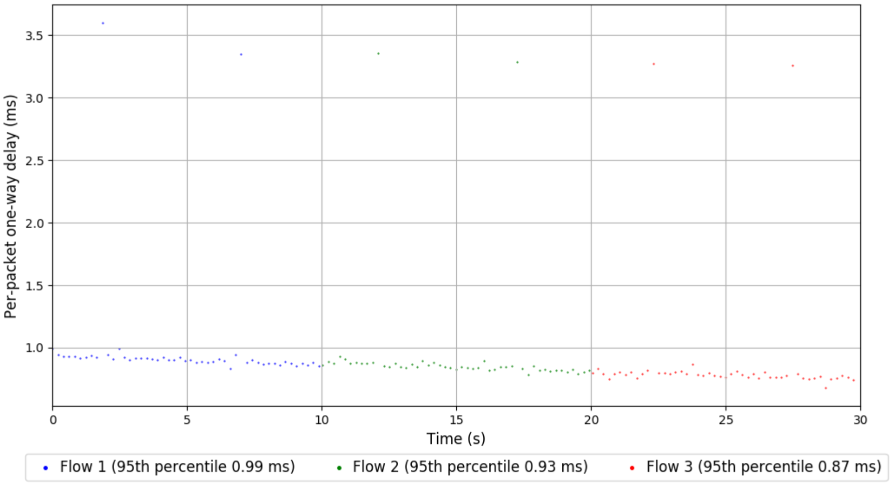
```
Run 4: Statistics of FillP-Sheep

Start at: 2018-06-30 15:31:39
End at: 2018-06-30 15:32:09
Local clock offset: 3.133 ms
Remote clock offset: 2.404 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.990 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.993 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.926 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.868 ms
Loss rate: 0.00%
```

Run 4: Report of FillP-Sheep — Data Link



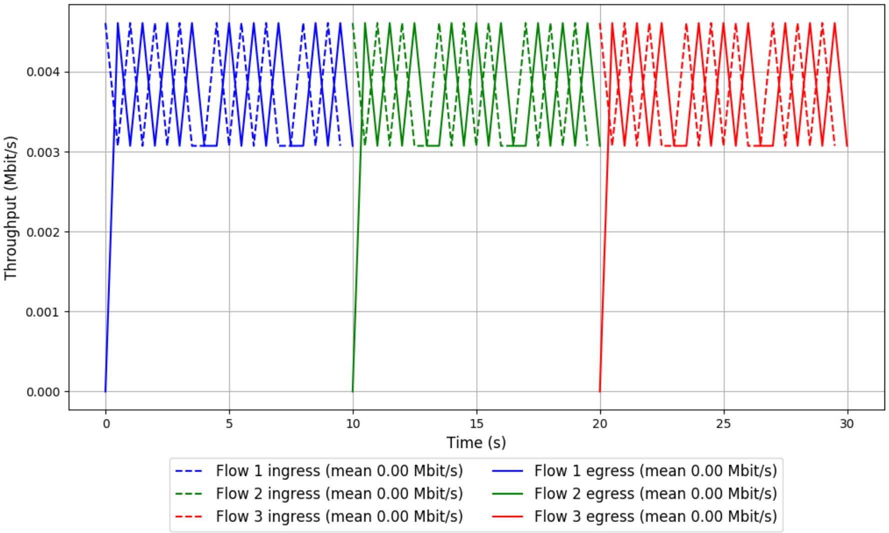


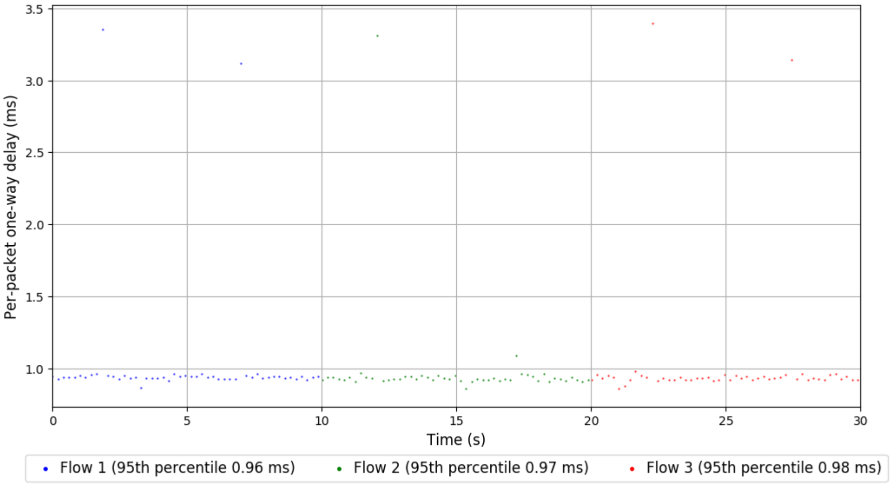
```
Run 5: Statistics of FillP-Sheep

Start at: 2018-06-30 15:58:10
End at: 2018-06-30 15:58:40
Local clock offset: 3.282 ms
Remote clock offset: -0.712 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.971 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.962 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.971 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.981 ms
Loss rate: 0.00%
```

Run 5: Report of FillP-Sheep — Data Link



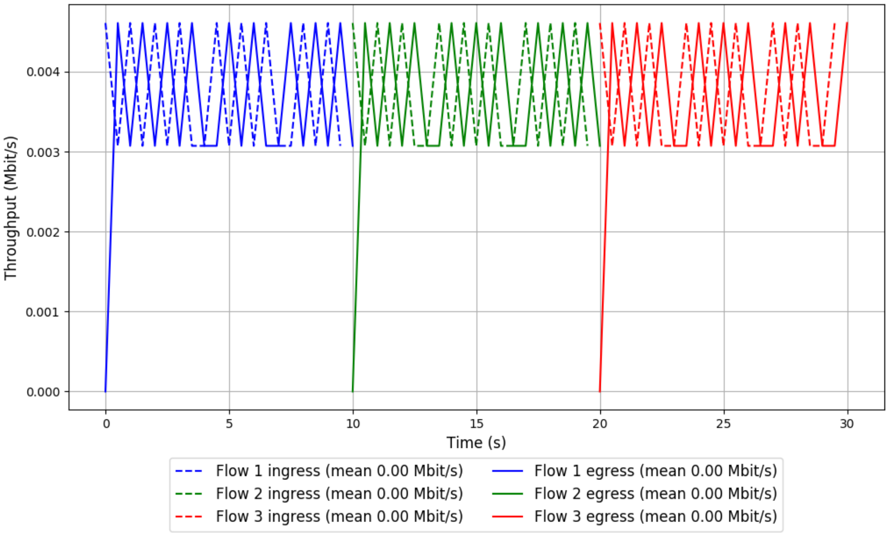


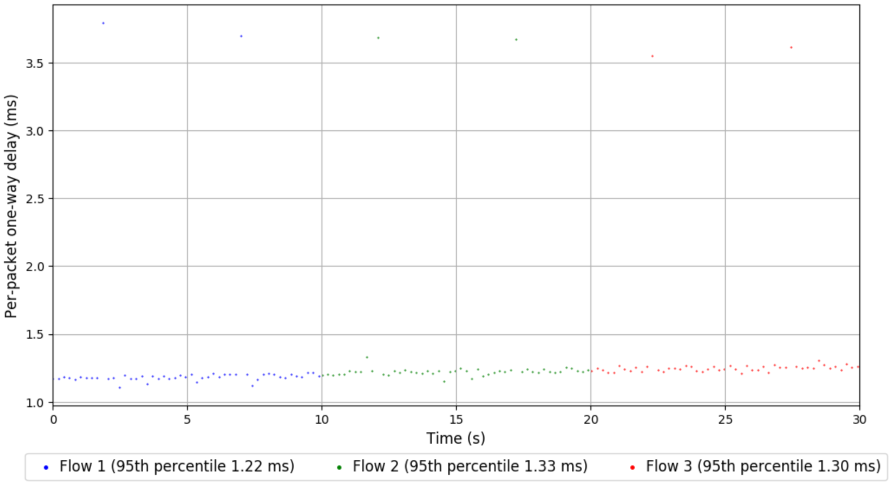
```
Run 6: Statistics of FillP-Sheep

Start at: 2018-06-30 16:24:39
End at: 2018-06-30 16:25:09
Local clock offset: 1.127 ms
Remote clock offset: -0.235 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.305 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.217 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.330 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.305 ms
Loss rate: 0.00%
```

Run 6: Report of FillP-Sheep — Data Link



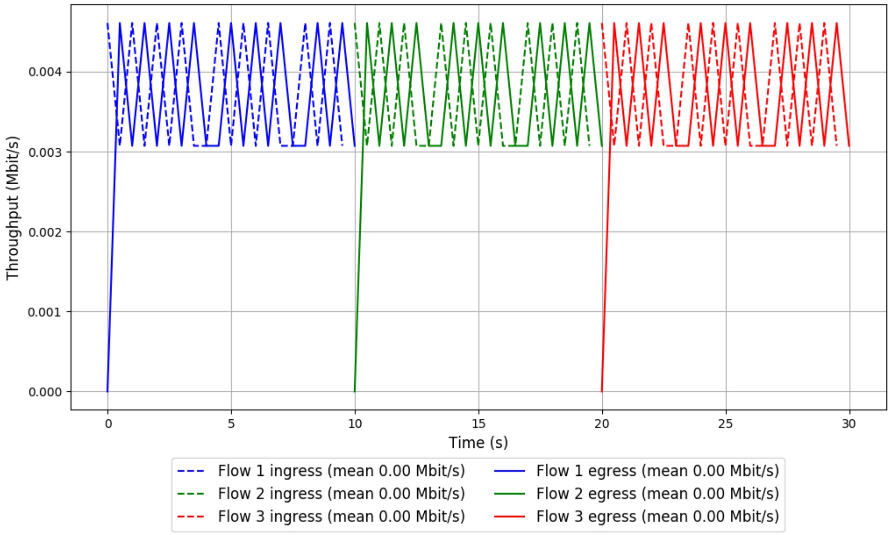


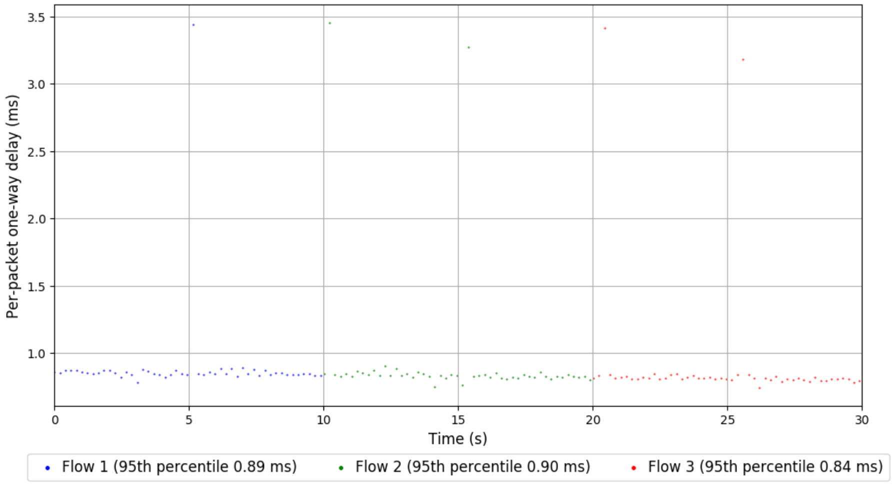
```
Run 7: Statistics of FillP-Sheep

Start at: 2018-06-30 16:51:09
End at: 2018-06-30 16:51:39
Local clock offset: 1.189 ms
Remote clock offset: 2.806 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.888 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.888 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.902 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.845 ms
Loss rate: 0.00%
```

Run 7: Report of FillP-Sheep — Data Link



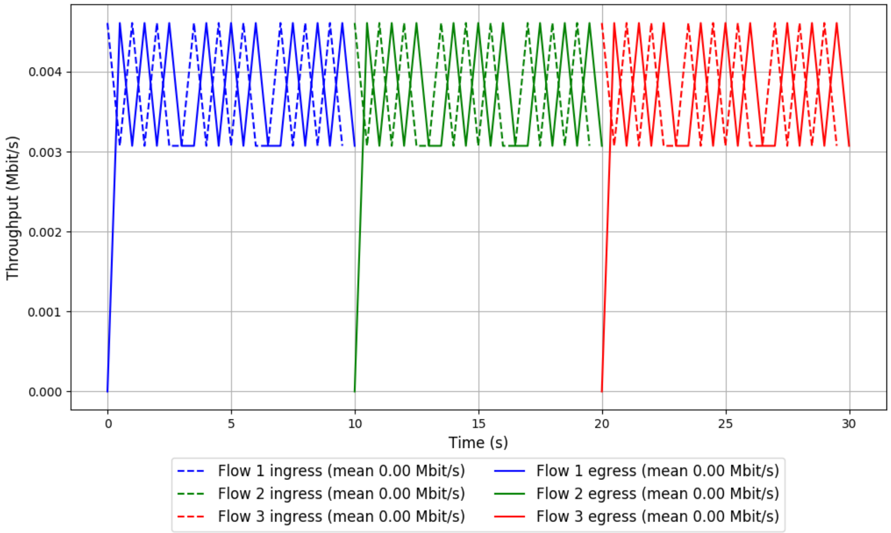


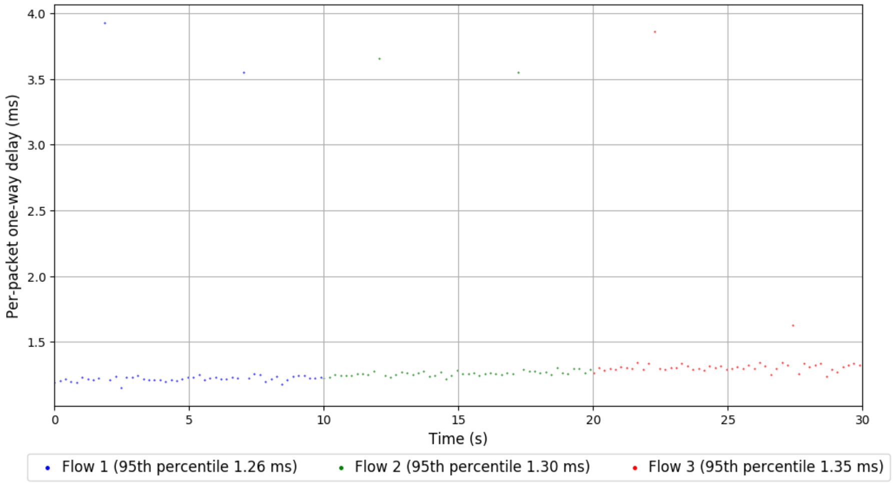
```
Run 8: Statistics of FillP-Sheep

Start at: 2018-06-30 17:17:51
End at: 2018-06-30 17:18:21
Local clock offset: 2.593 ms
Remote clock offset: 3.536 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.345 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.257 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.303 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.347 ms
Loss rate: 0.00%
```

Run 8: Report of FillP-Sheep — Data Link



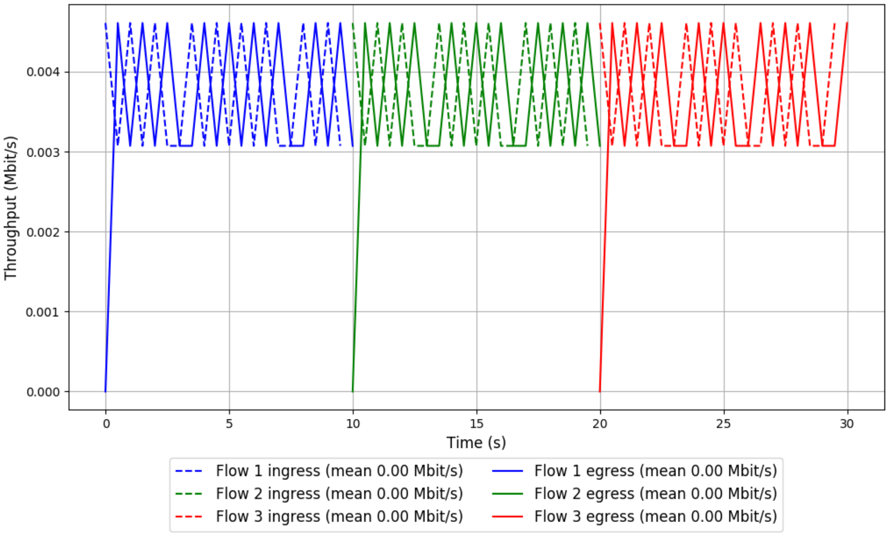


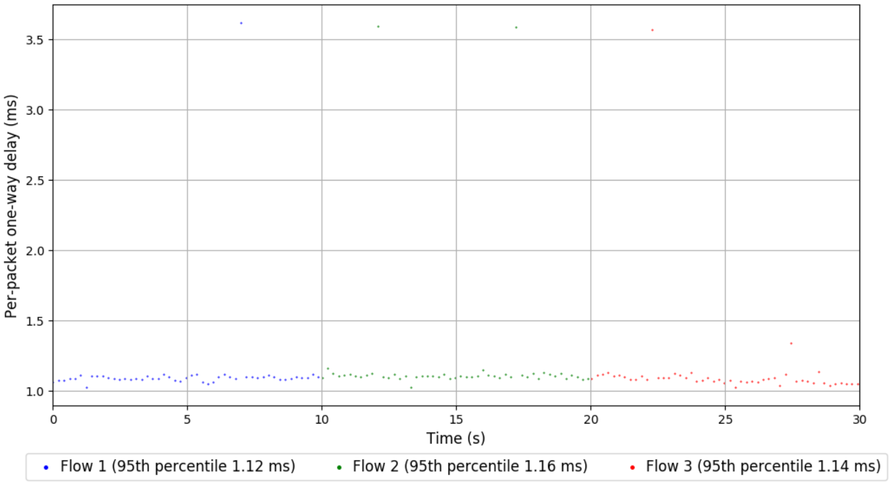
```
Run 9: Statistics of FillP-Sheep

Start at: 2018-06-30 17:44:29
End at: 2018-06-30 17:44:59
Local clock offset: -0.02 ms
Remote clock offset: 3.572 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.118 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.160 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.00%
```

Run 9: Report of FillP-Sheep — Data Link



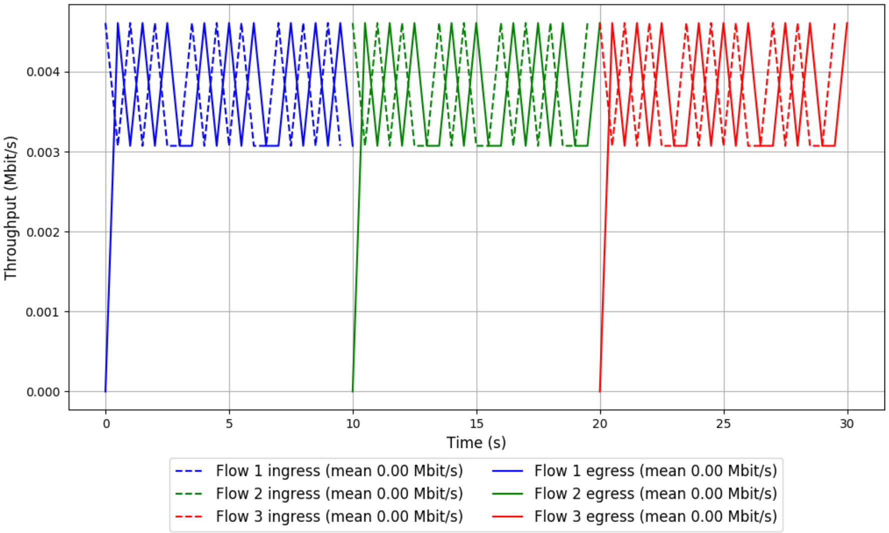


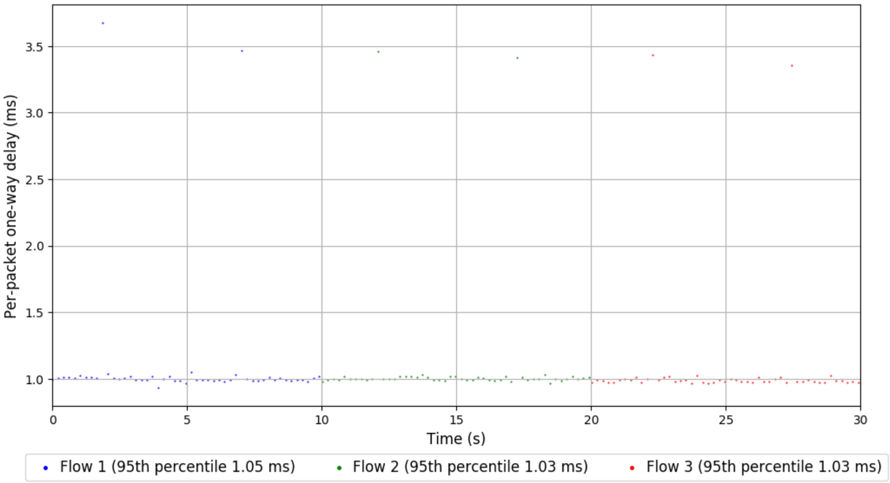
```
Run 10: Statistics of FillP-Sheep

Start at: 2018-06-30 18:10:52
End at: 2018-06-30 18:11:22
Local clock offset: 3.952 ms
Remote clock offset: -0.799 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.035 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.050 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.030 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.026 ms
Loss rate: 0.00%
```

Run 10: Report of FillP-Sheep — Data Link



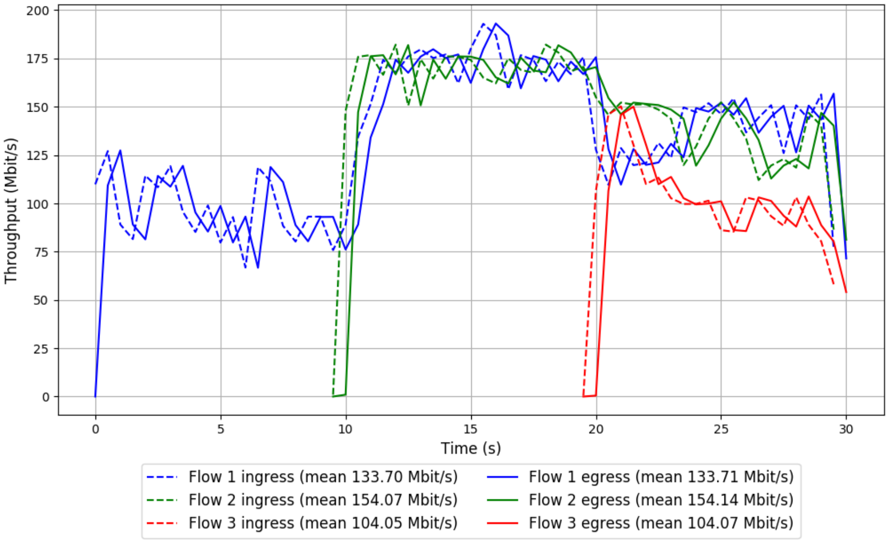


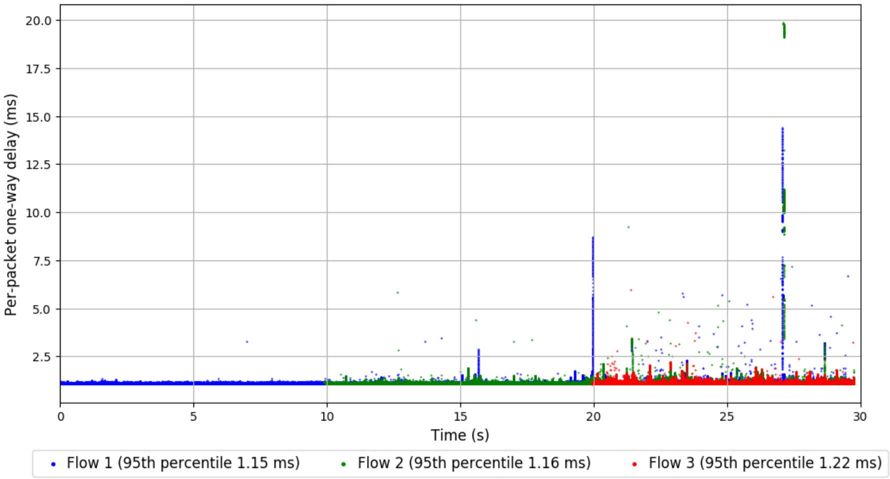
```
Run 1: Statistics of Indigo

Start at: 2018-06-30 14:18:00
End at: 2018-06-30 14:18:30
Local clock offset: 3.539 ms
Remote clock offset: 3.122 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 270.83 Mbit/s
95th percentile per-packet one-way delay: 1.162 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 133.71 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 154.14 Mbit/s
95th percentile per-packet one-way delay: 1.162 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 104.07 Mbit/s
95th percentile per-packet one-way delay: 1.222 ms
Loss rate: 0.21%
```

Run 1: Report of Indigo — Data Link



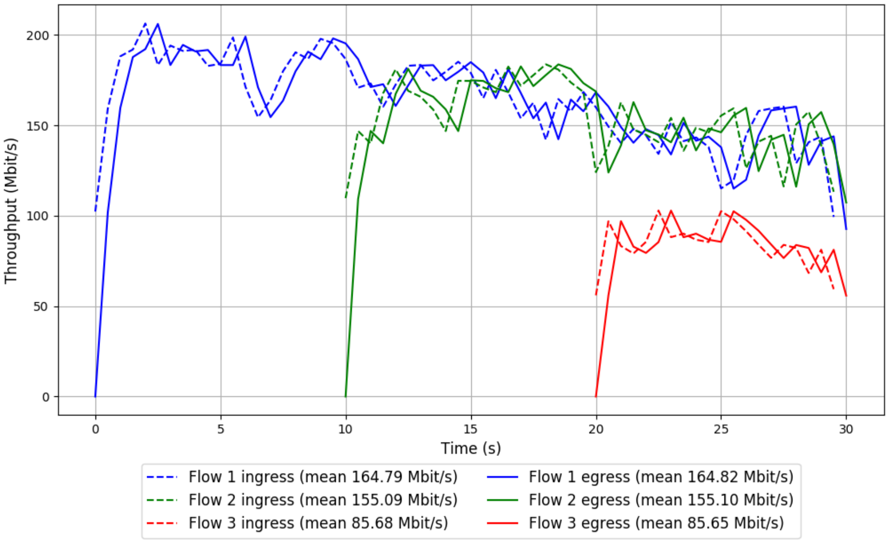


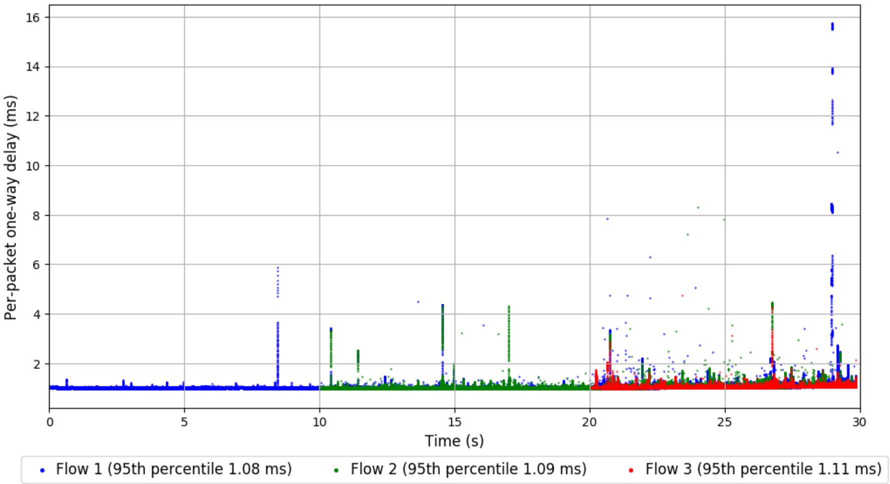
```
Run 2: Statistics of Indigo

Start at: 2018-06-30 14:44:31
End at: 2018-06-30 14:45:01
Local clock offset: 3.196 ms
Remote clock offset: 2.922 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.98 Mbit/s
95th percentile per-packet one-way delay: 1.084 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 164.82 Mbit/s
95th percentile per-packet one-way delay: 1.076 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 155.10 Mbit/s
95th percentile per-packet one-way delay: 1.089 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 85.65 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 0.21%
```

Run 2: Report of Indigo — Data Link



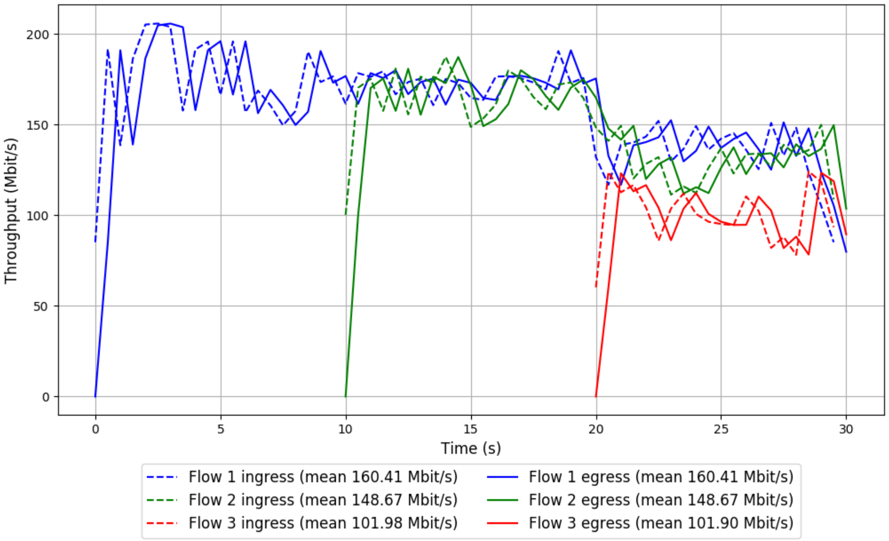


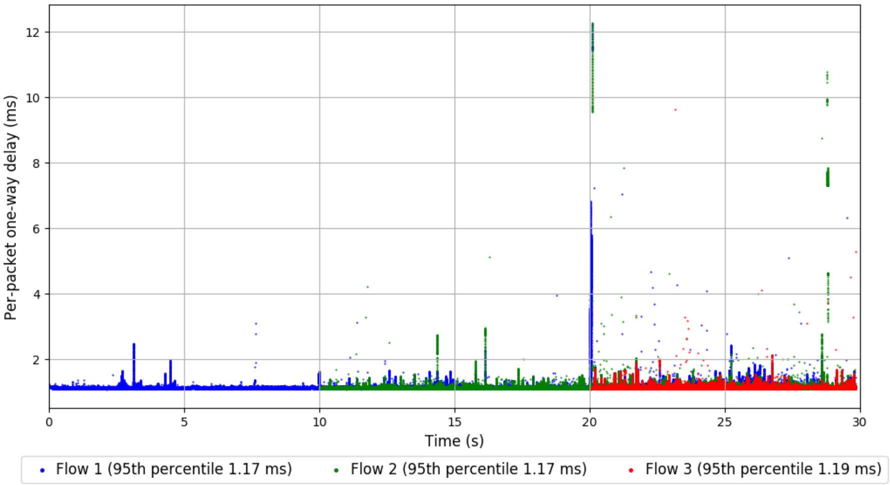
```
Run 3: Statistics of Indigo

Start at: 2018-06-30 15:11:09
End at: 2018-06-30 15:11:39
Local clock offset: -0.342 ms
Remote clock offset: 3.076 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 292.65 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 160.41 Mbit/s
95th percentile per-packet one-way delay: 1.170 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 148.67 Mbit/s
95th percentile per-packet one-way delay: 1.167 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 101.90 Mbit/s
95th percentile per-packet one-way delay: 1.190 ms
Loss rate: 0.21%
```

Run 3: Report of Indigo — Data Link



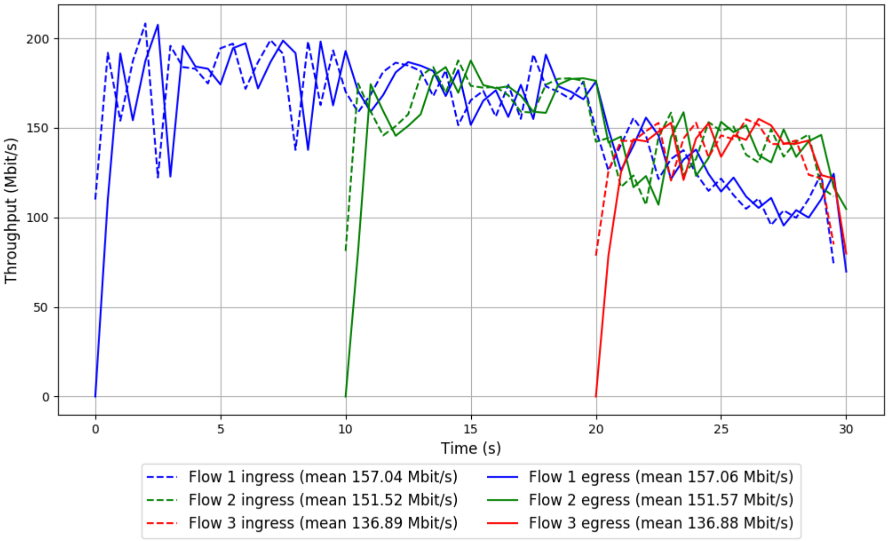


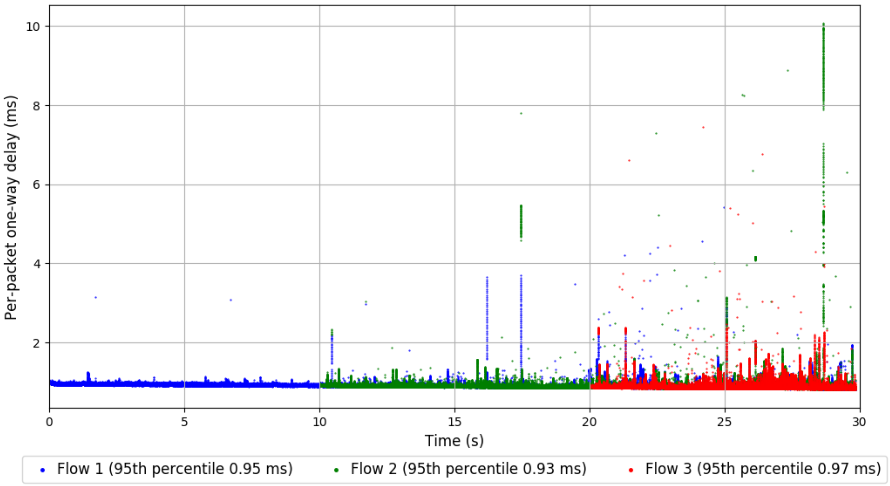
```
Run 4: Statistics of Indigo

Start at: 2018-06-30 15:37:42
End at: 2018-06-30 15:38:12
Local clock offset: 3.522 ms
Remote clock offset: 0.92 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.68 Mbit/s
95th percentile per-packet one-way delay: 0.952 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 157.06 Mbit/s
95th percentile per-packet one-way delay: 0.955 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 151.57 Mbit/s
95th percentile per-packet one-way delay: 0.929 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 136.88 Mbit/s
95th percentile per-packet one-way delay: 0.968 ms
Loss rate: 0.20%
```

Run 4: Report of Indigo — Data Link



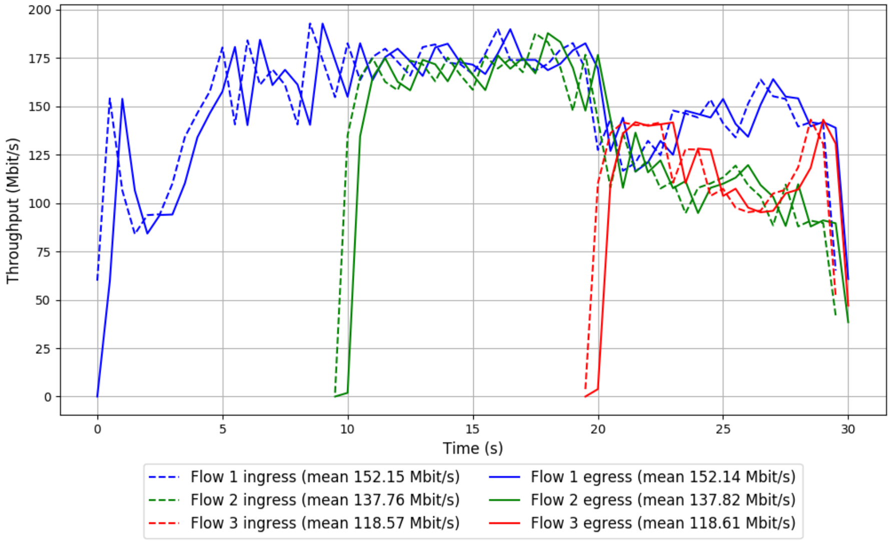


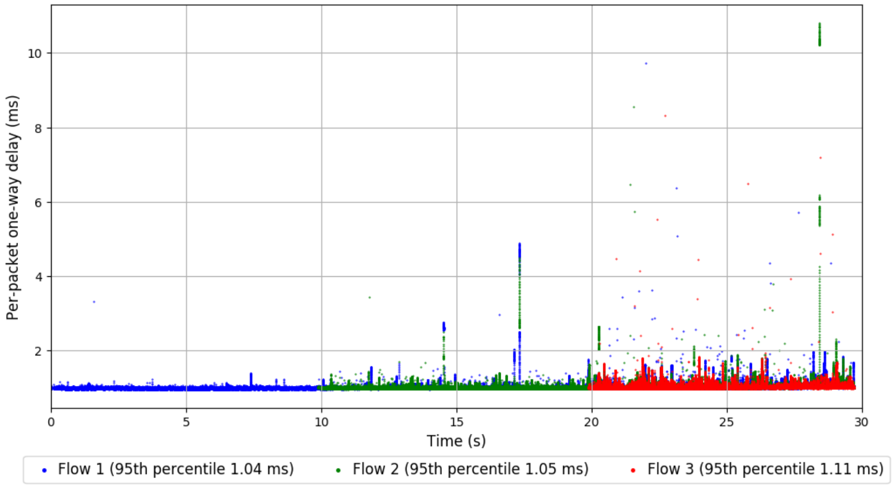
```
Run 5: Statistics of Indigo

Start at: 2018-06-30 16:04:15
End at: 2018-06-30 16:04:45
Local clock offset: 3.325 ms
Remote clock offset: -0.738 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 283.41 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 152.14 Mbit/s
95th percentile per-packet one-way delay: 1.043 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 137.82 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 118.61 Mbit/s
95th percentile per-packet one-way delay: 1.115 ms
Loss rate: 0.21%
```

Run 5: Report of Indigo — Data Link



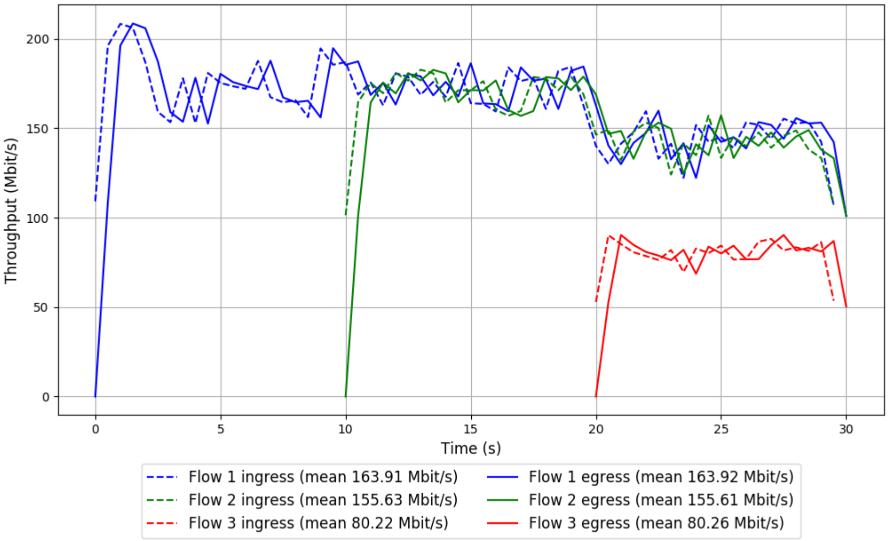


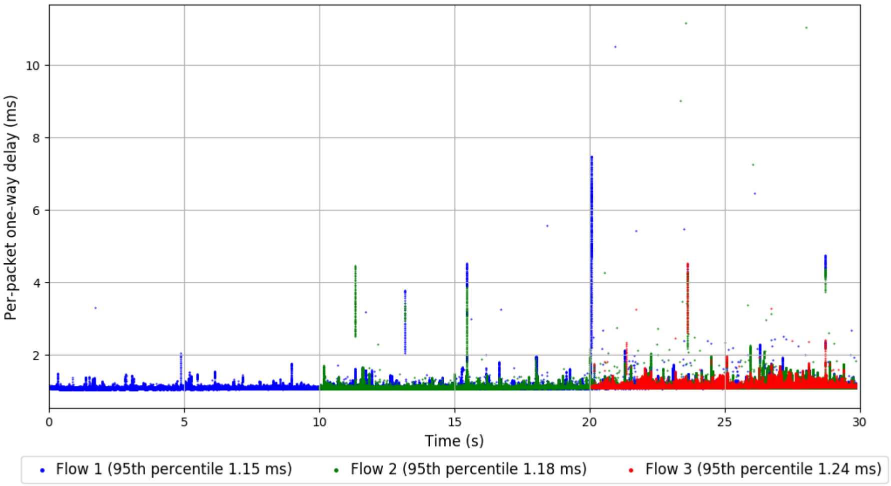
```
Run 6: Statistics of Indigo

Start at: 2018-06-30 16:30:41
End at: 2018-06-30 16:31:11
Local clock offset: 0.409 ms
Remote clock offset: -0.224 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 293.71 Mbit/s
95th percentile per-packet one-way delay: 1.172 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 163.92 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 155.61 Mbit/s
95th percentile per-packet one-way delay: 1.177 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 80.26 Mbit/s
95th percentile per-packet one-way delay: 1.244 ms
Loss rate: 0.20%
```

Run 6: Report of Indigo — Data Link



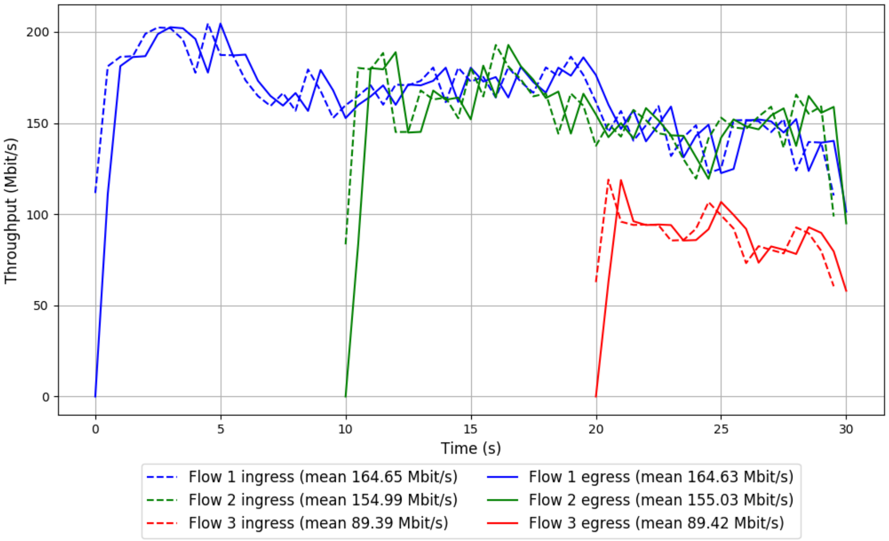


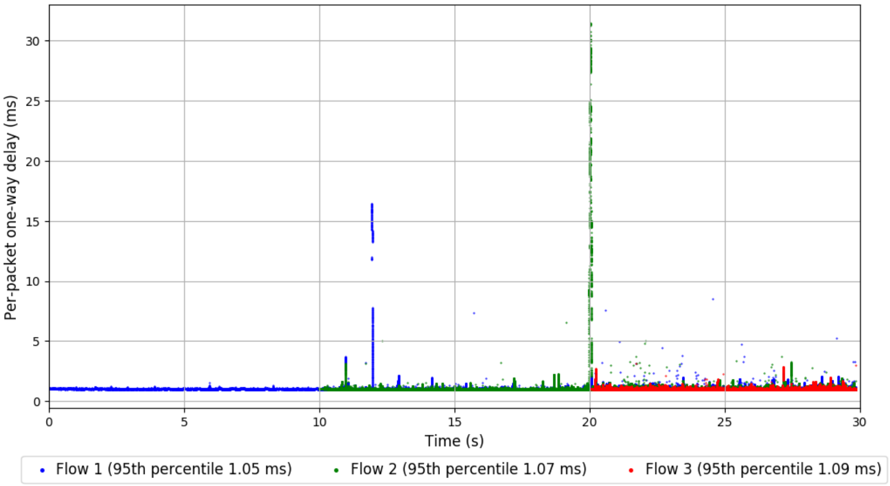
```
Run 7: Statistics of Indigo

Start at: 2018-06-30 16:57:14
End at: 2018-06-30 16:57:44
Local clock offset: 2.372 ms
Remote clock offset: 3.337 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 297.05 Mbit/s
95th percentile per-packet one-way delay: 1.058 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 164.63 Mbit/s
95th percentile per-packet one-way delay: 1.050 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 155.03 Mbit/s
95th percentile per-packet one-way delay: 1.073 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 89.42 Mbit/s
95th percentile per-packet one-way delay: 1.086 ms
Loss rate: 0.16%
```

Run 7: Report of Indigo — Data Link



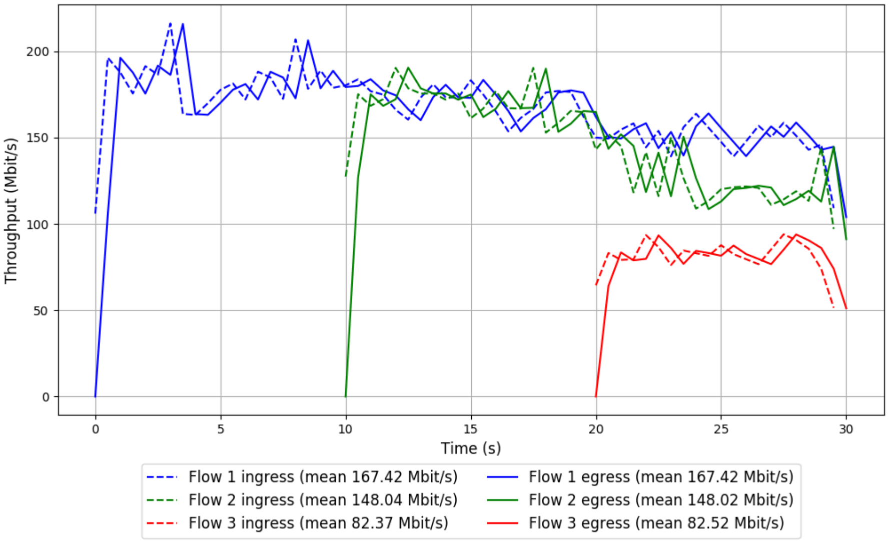


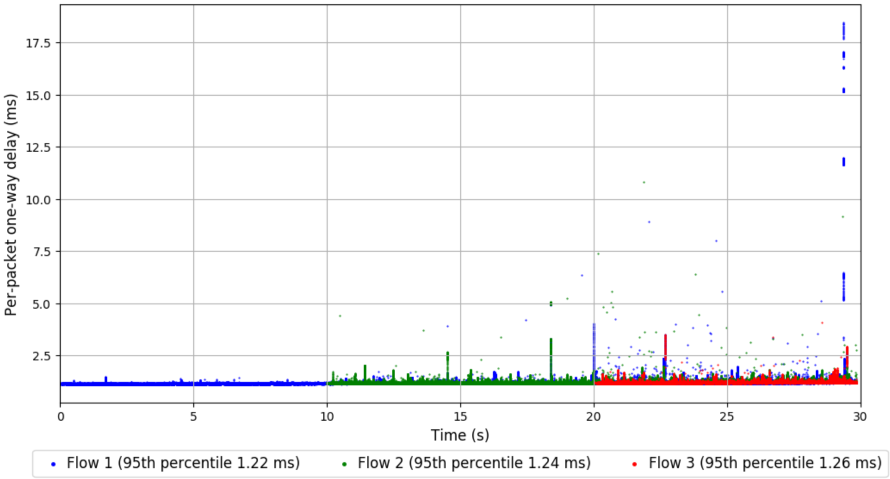
```
Run 8: Statistics of Indigo

Start at: 2018-06-30 17:23:55
End at: 2018-06-30 17:24:25
Local clock offset: 1.372 ms
Remote clock offset: 3.382 ms

# Below is generated by plot.py at 2018-06-30 19:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 292.91 Mbit/s
95th percentile per-packet one-way delay: 1.231 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 167.42 Mbit/s
95th percentile per-packet one-way delay: 1.217 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 148.02 Mbit/s
95th percentile per-packet one-way delay: 1.244 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 82.52 Mbit/s
95th percentile per-packet one-way delay: 1.264 ms
Loss rate: 0.01%
```

Run 8: Report of Indigo — Data Link



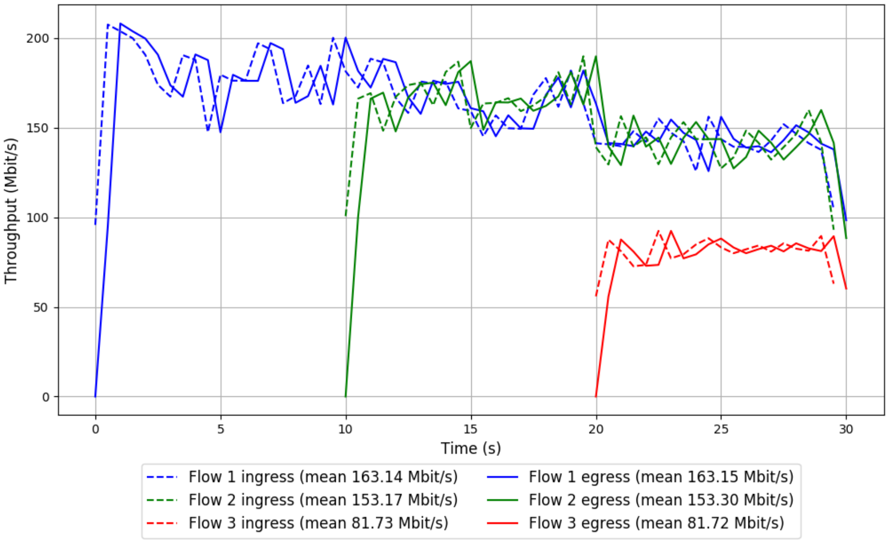


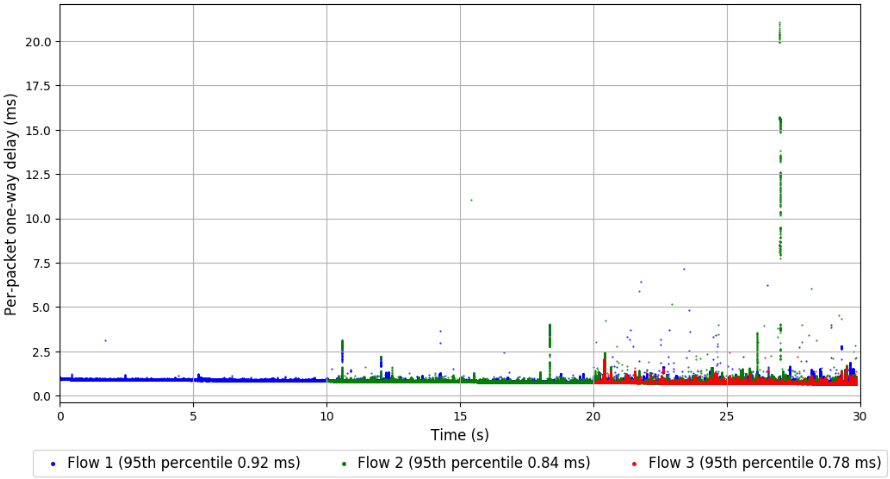
```
Run 9: Statistics of Indigo

Start at: 2018-06-30 17:50:33
End at: 2018-06-30 17:51:03
Local clock offset: 1.699 ms
Remote clock offset: 1.649 ms

# Below is generated by plot.py at 2018-06-30 19:48:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 291.85 Mbit/s
95th percentile per-packet one-way delay: 0.913 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 163.15 Mbit/s
95th percentile per-packet one-way delay: 0.921 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 153.30 Mbit/s
95th percentile per-packet one-way delay: 0.836 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 81.72 Mbit/s
95th percentile per-packet one-way delay: 0.784 ms
Loss rate: 0.19%
```

Run 9: Report of Indigo — Data Link



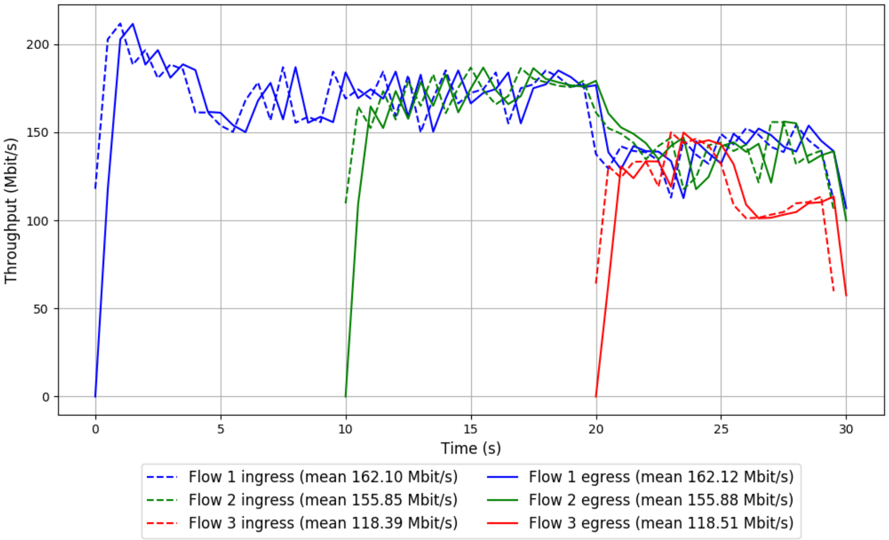


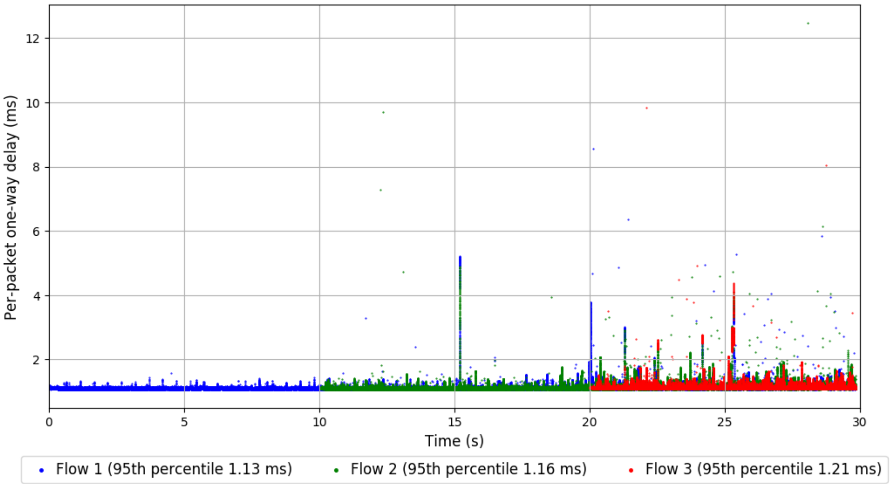
```
Run 10: Statistics of Indigo

Start at: 2018-06-30 18:16:56
End at: 2018-06-30 18:17:26
Local clock offset: 4.017 ms
Remote clock offset: -1.138 ms

# Below is generated by plot.py at 2018-06-30 19:48:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 304.61 Mbit/s
95th percentile per-packet one-way delay: 1.149 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 162.12 Mbit/s
95th percentile per-packet one-way delay: 1.130 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 155.88 Mbit/s
95th percentile per-packet one-way delay: 1.162 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 118.51 Mbit/s
95th percentile per-packet one-way delay: 1.212 ms
Loss rate: 0.10%
```

Run 10: Report of Indigo — Data Link



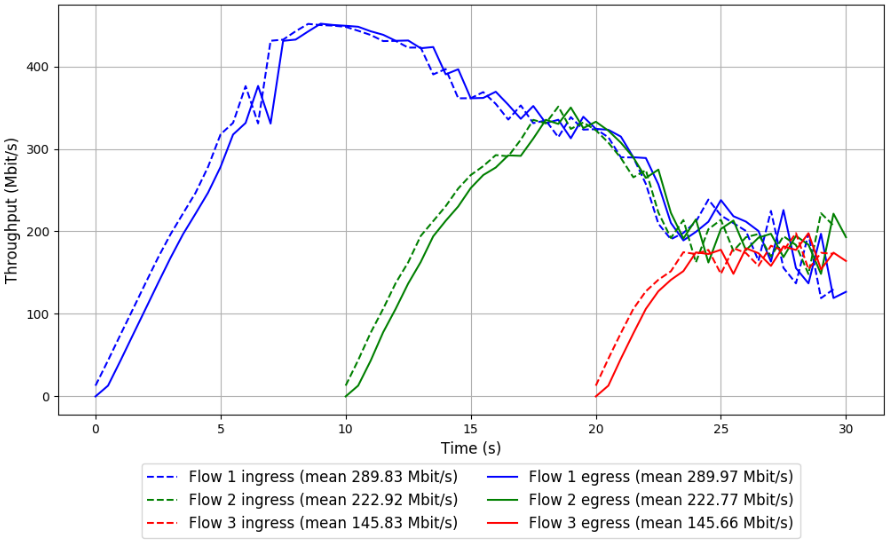


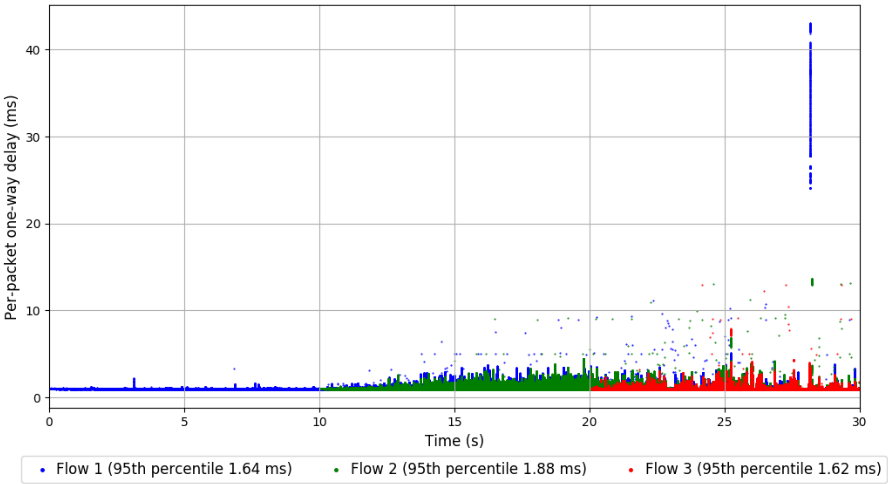
```
Run 1: Statistics of LEDBAT

Start at: 2018-06-30 14:27:20
End at: 2018-06-30 14:27:50
Local clock offset: 3.17 ms
Remote clock offset: 2.86 ms

# Below is generated by plot.py at 2018-06-30 19:51:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 486.61 Mbit/s
95th percentile per-packet one-way delay: 1.726 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 289.97 Mbit/s
95th percentile per-packet one-way delay: 1.635 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 222.77 Mbit/s
95th percentile per-packet one-way delay: 1.875 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 145.66 Mbit/s
95th percentile per-packet one-way delay: 1.623 ms
Loss rate: 0.31%
```

Run 1: Report of LEDBAT — Data Link



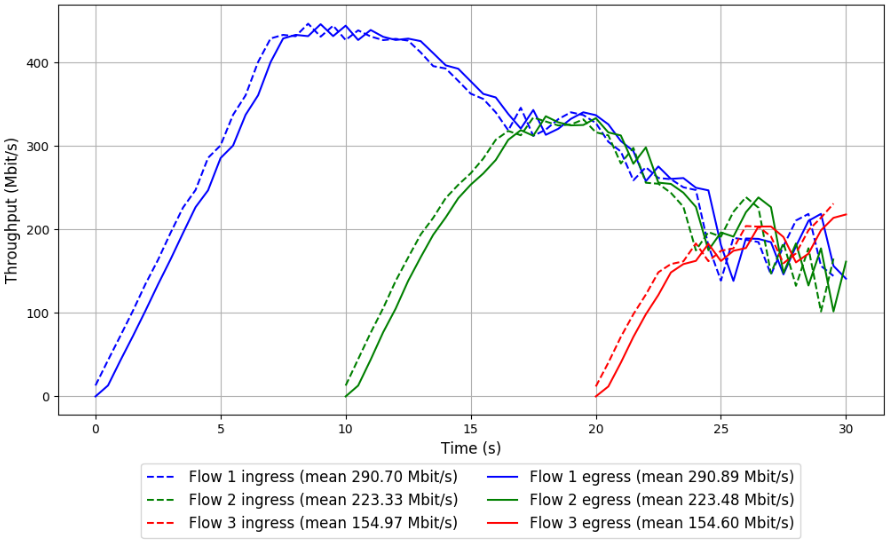


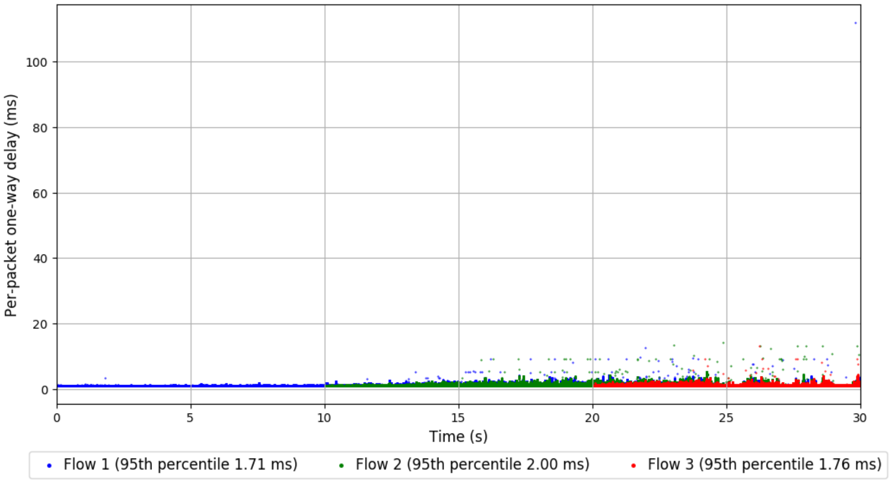
```
Run 2: Statistics of LEDBAT

Start at: 2018-06-30 14:53:58
End at: 2018-06-30 14:54:28
Local clock offset: 1.1 ms
Remote clock offset: 3.115 ms

# Below is generated by plot.py at 2018-06-30 19:51:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 490.87 Mbit/s
95th percentile per-packet one-way delay: 1.813 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 290.89 Mbit/s
95th percentile per-packet one-way delay: 1.706 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 223.48 Mbit/s
95th percentile per-packet one-way delay: 2.003 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 154.60 Mbit/s
95th percentile per-packet one-way delay: 1.765 ms
Loss rate: 0.44%
```

Run 2: Report of LEDBAT — Data Link



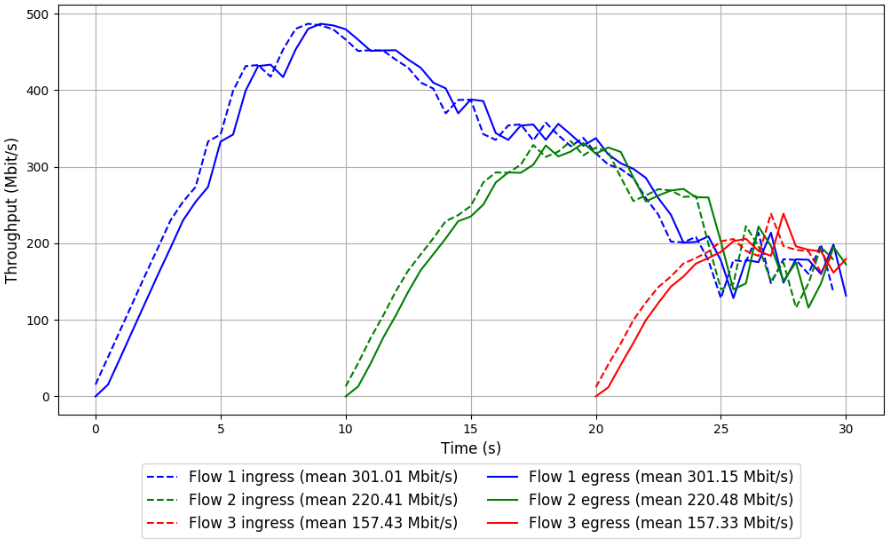


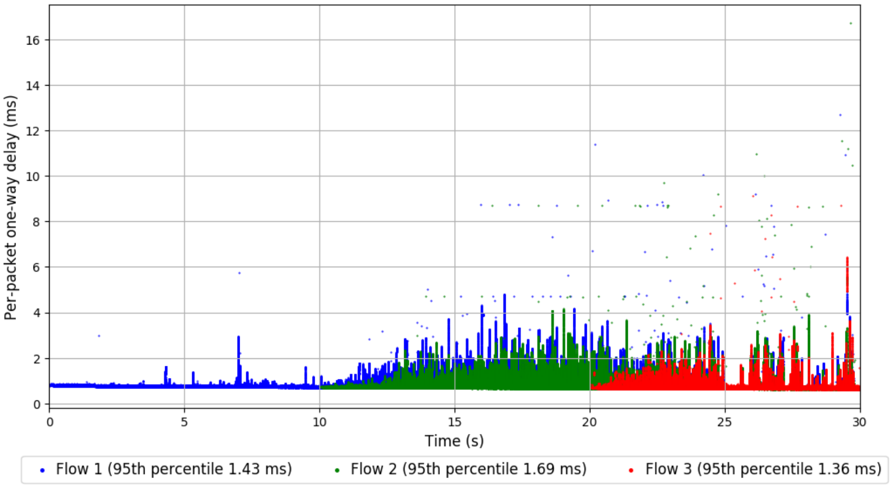
```
Run 3: Statistics of LEDBAT

Start at: 2018-06-30 15:20:36
End at: 2018-06-30 15:21:06
Local clock offset: 1.207 ms
Remote clock offset: 3.266 ms

# Below is generated by plot.py at 2018-06-30 19:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 500.13 Mbit/s
95th percentile per-packet one-way delay: 1.510 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 301.15 Mbit/s
95th percentile per-packet one-way delay: 1.426 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 220.48 Mbit/s
95th percentile per-packet one-way delay: 1.690 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 157.33 Mbit/s
95th percentile per-packet one-way delay: 1.363 ms
Loss rate: 0.26%
```

Run 3: Report of LEDBAT — Data Link



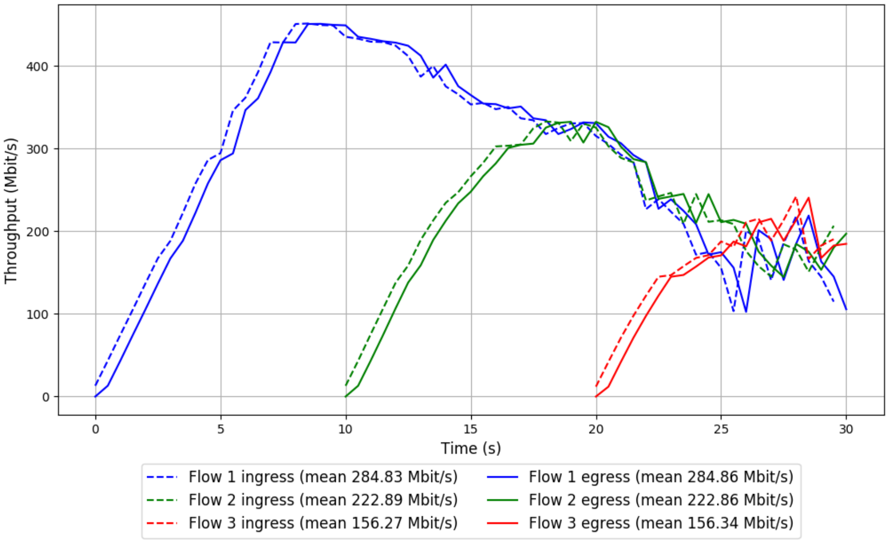


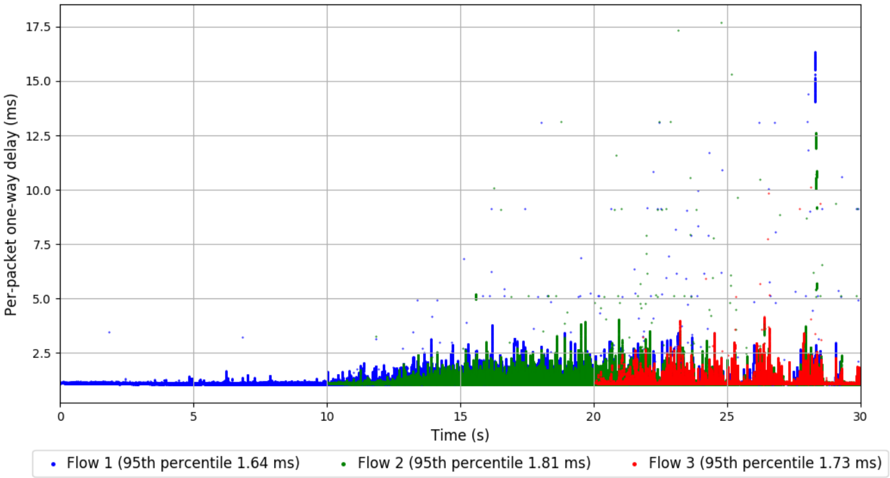
```
Run 4: Statistics of LEDBAT

Start at: 2018-06-30 15:47:09
End at: 2018-06-30 15:47:39
Local clock offset: 3.754 ms
Remote clock offset: -0.178 ms

# Below is generated by plot.py at 2018-06-30 19:52:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 485.04 Mbit/s
95th percentile per-packet one-way delay: 1.701 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 284.86 Mbit/s
95th percentile per-packet one-way delay: 1.637 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 222.86 Mbit/s
95th percentile per-packet one-way delay: 1.811 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 156.34 Mbit/s
95th percentile per-packet one-way delay: 1.727 ms
Loss rate: 0.19%
```

Run 4: Report of LEDBAT — Data Link



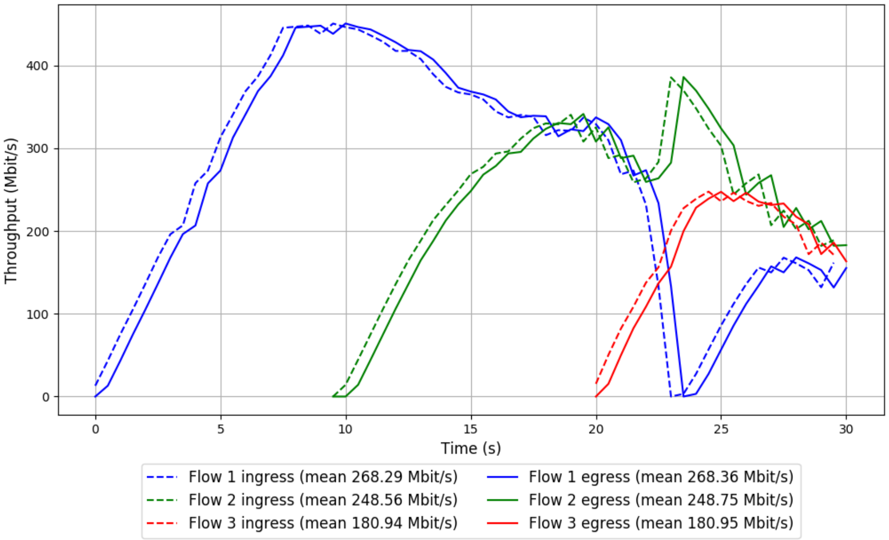


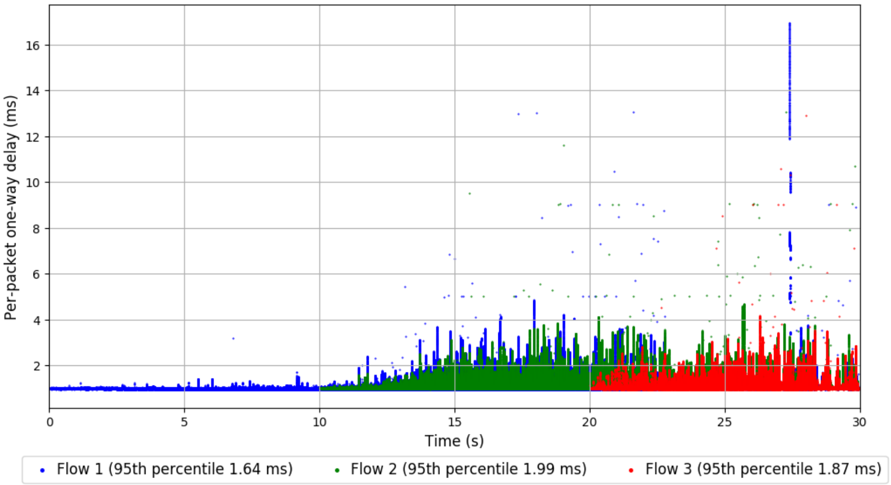
```
Run 5: Statistics of LEDBAT

Start at: 2018-06-30 16:13:37
End at: 2018-06-30 16:14:07
Local clock offset: 3.341 ms
Remote clock offset: -0.299 ms

# Below is generated by plot.py at 2018-06-30 19:53:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 494.01 Mbit/s
95th percentile per-packet one-way delay: 1.807 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 268.36 Mbit/s
95th percentile per-packet one-way delay: 1.635 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 248.75 Mbit/s
95th percentile per-packet one-way delay: 1.993 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 180.95 Mbit/s
95th percentile per-packet one-way delay: 1.868 ms
Loss rate: 0.22%
```

Run 5: Report of LEDBAT — Data Link



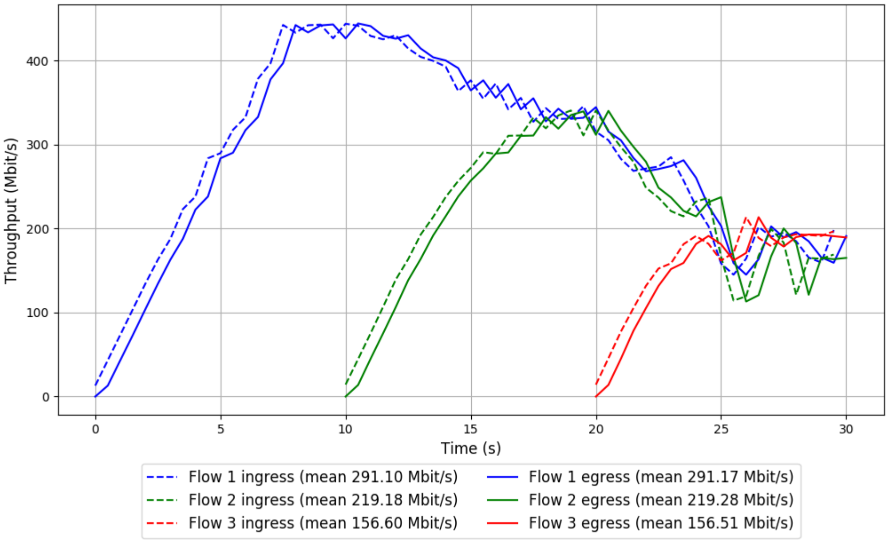


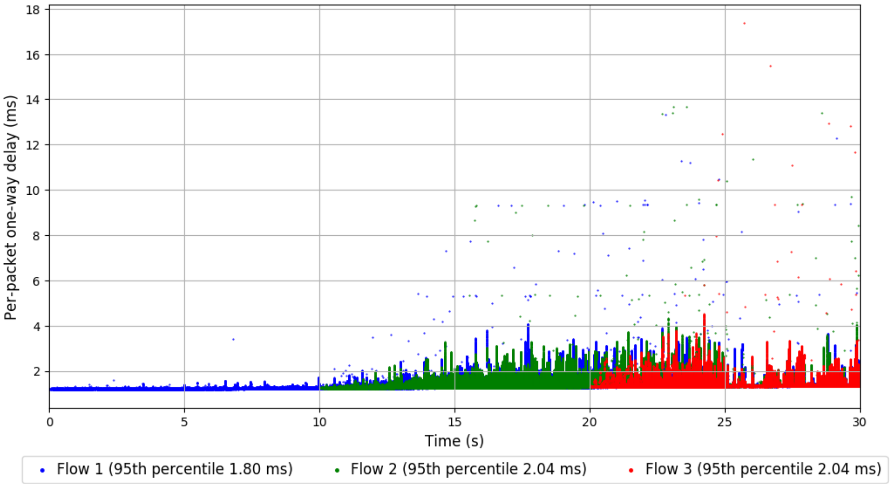
```
Run 6: Statistics of LEDBAT

Start at: 2018-06-30 16:40:06
End at: 2018-06-30 16:40:36
Local clock offset: -0.273 ms
Remote clock offset: 0.755 ms

# Below is generated by plot.py at 2018-06-30 19:53:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 489.12 Mbit/s
95th percentile per-packet one-way delay: 1.911 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 291.17 Mbit/s
95th percentile per-packet one-way delay: 1.804 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 219.28 Mbit/s
95th percentile per-packet one-way delay: 2.043 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 156.51 Mbit/s
95th percentile per-packet one-way delay: 2.037 ms
Loss rate: 0.25%
```

Run 6: Report of LEDBAT — Data Link



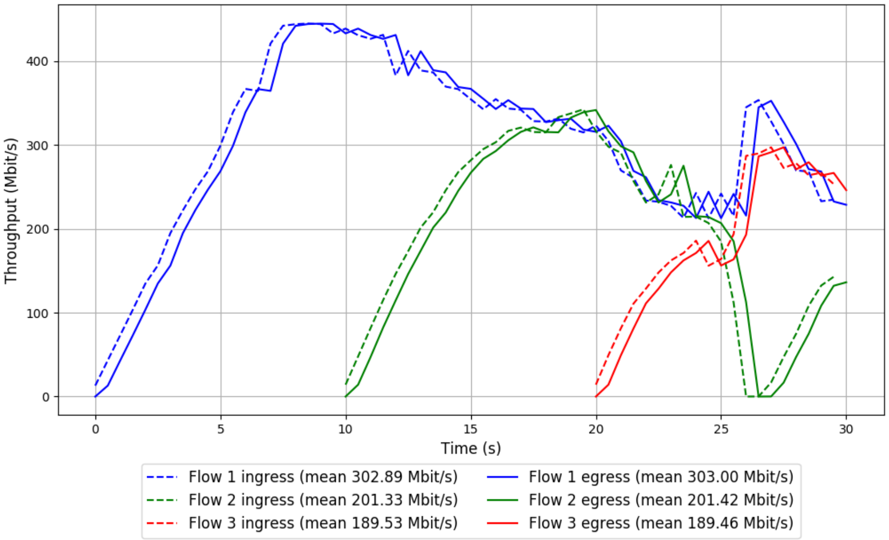


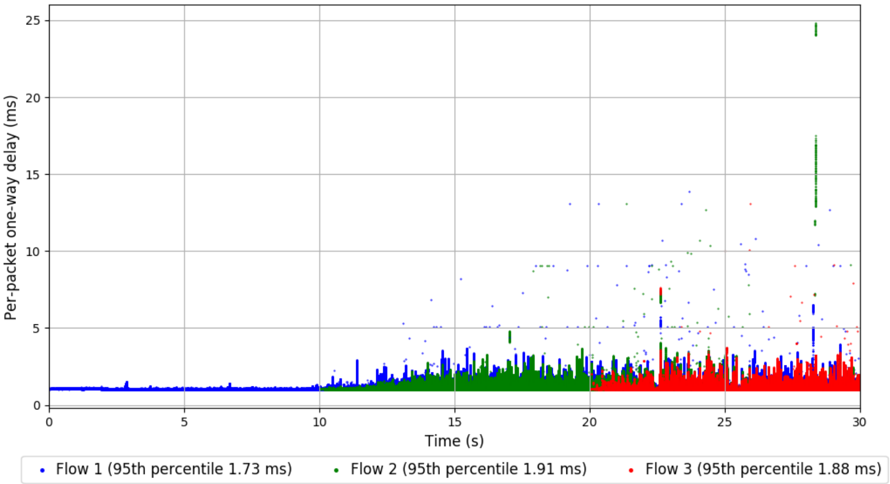
```
Run 7: Statistics of LEDBAT

Start at: 2018-06-30 17:06:44
End at: 2018-06-30 17:07:14
Local clock offset: 3.145 ms
Remote clock offset: 3.926 ms

# Below is generated by plot.py at 2018-06-30 19:54:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 499.93 Mbit/s
95th percentile per-packet one-way delay: 1.809 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 303.00 Mbit/s
95th percentile per-packet one-way delay: 1.728 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 201.42 Mbit/s
95th percentile per-packet one-way delay: 1.909 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 189.46 Mbit/s
95th percentile per-packet one-way delay: 1.883 ms
Loss rate: 0.22%
```

Run 7: Report of LEDBAT — Data Link



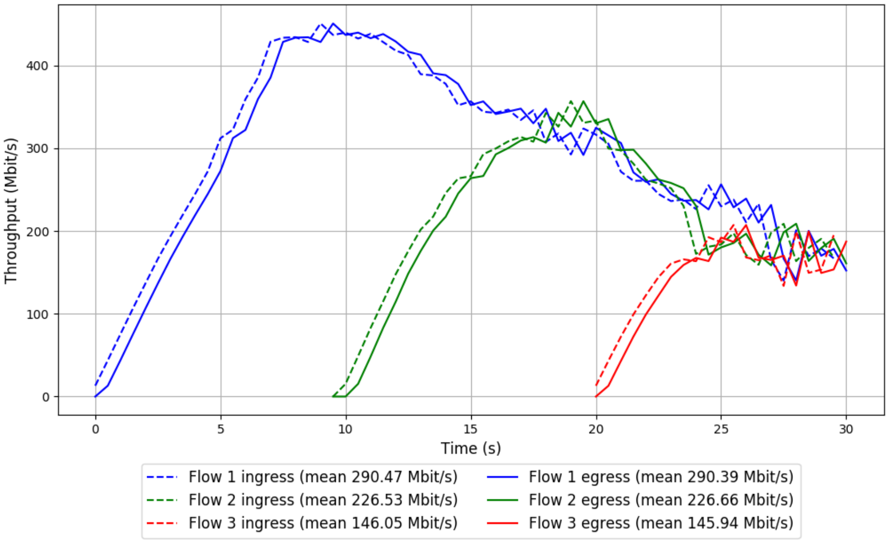


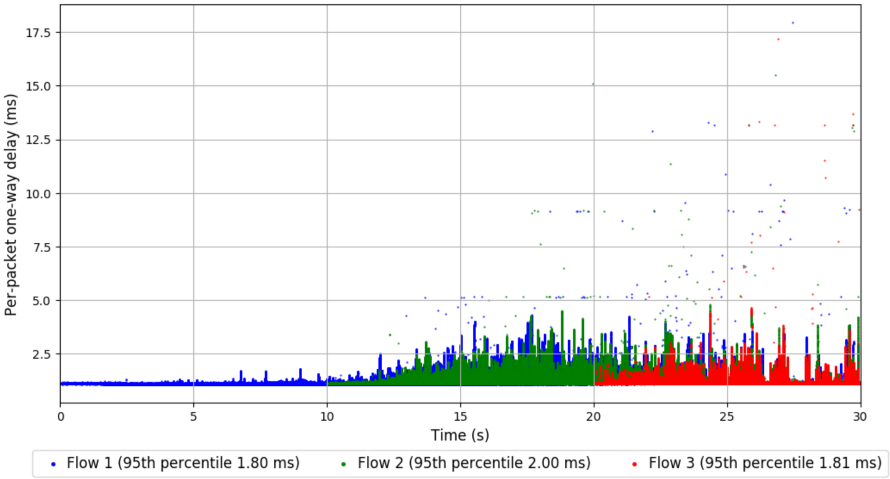
```
Run 8: Statistics of LEDBAT

Start at: 2018-06-30 17:33:21
End at: 2018-06-30 17:33:51
Local clock offset: 0.462 ms
Remote clock offset: 3.386 ms

# Below is generated by plot.py at 2018-06-30 19:54:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 489.74 Mbit/s
95th percentile per-packet one-way delay: 1.881 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 290.39 Mbit/s
95th percentile per-packet one-way delay: 1.804 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 226.66 Mbit/s
95th percentile per-packet one-way delay: 2.002 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 145.94 Mbit/s
95th percentile per-packet one-way delay: 1.810 ms
Loss rate: 0.27%
```

Run 8: Report of LEDBAT — Data Link



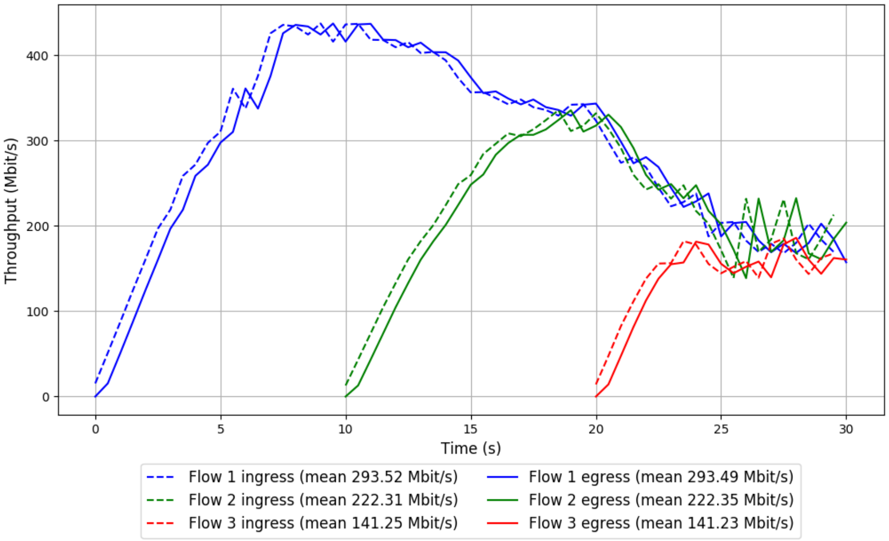


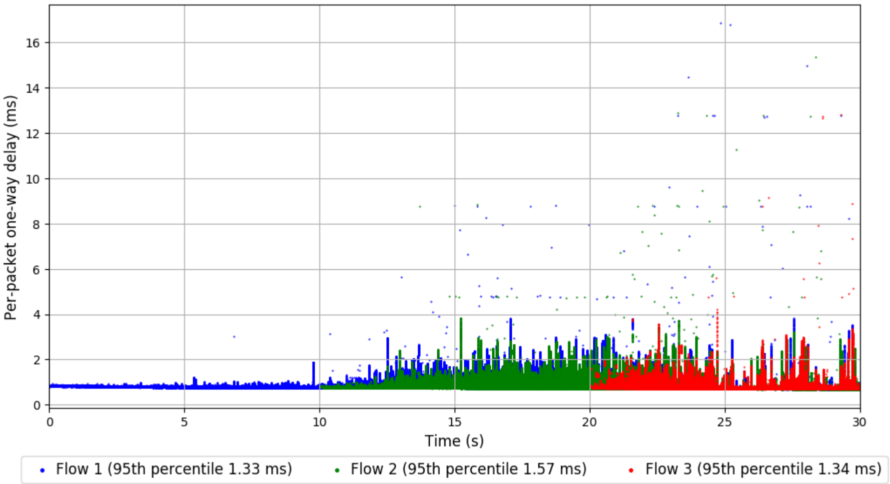
```
Run 9: Statistics of LEDBAT

Start at: 2018-06-30 17:59:50
End at: 2018-06-30 18:00:20
Local clock offset: 3.096 ms
Remote clock offset: 0.1 ms

# Below is generated by plot.py at 2018-06-30 19:56:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 488.41 Mbit/s
95th percentile per-packet one-way delay: 1.405 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 293.49 Mbit/s
95th percentile per-packet one-way delay: 1.331 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 222.35 Mbit/s
95th percentile per-packet one-way delay: 1.575 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 141.23 Mbit/s
95th percentile per-packet one-way delay: 1.343 ms
Loss rate: 0.27%
```

Run 9: Report of LEDBAT — Data Link



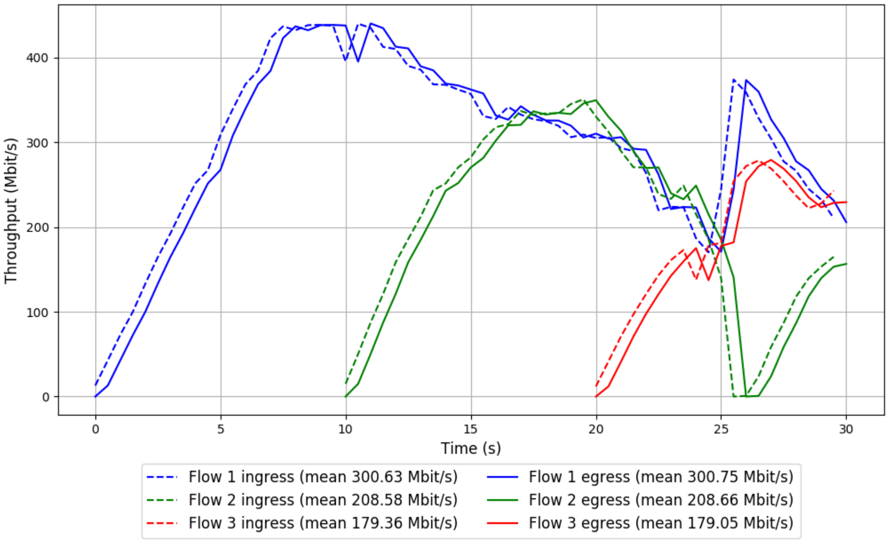


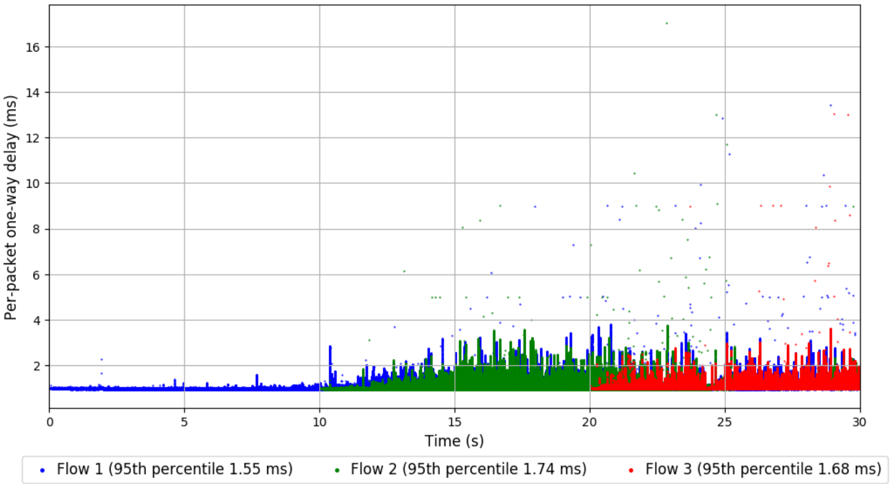
```
Run 10: Statistics of LEDBAT

Start at: 2018-06-30 18:26:24
End at: 2018-06-30 18:26:54
Local clock offset: 3.559 ms
Remote clock offset: -0.875 ms

# Below is generated by plot.py at 2018-06-30 19:57:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 499.03 Mbit/s
95th percentile per-packet one-way delay: 1.624 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 300.75 Mbit/s
95th percentile per-packet one-way delay: 1.548 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 208.66 Mbit/s
95th percentile per-packet one-way delay: 1.741 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 179.05 Mbit/s
95th percentile per-packet one-way delay: 1.681 ms
Loss rate: 0.38%
```

Run 10: Report of LEDBAT — Data Link



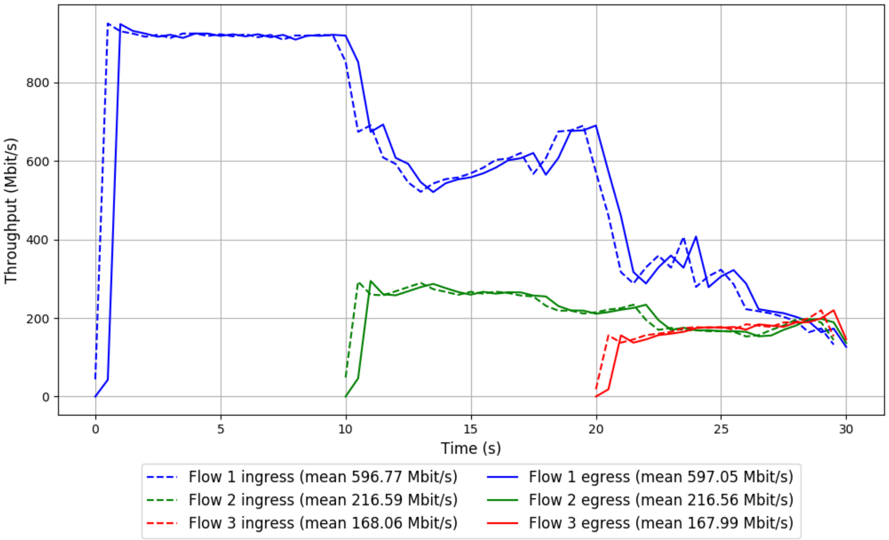


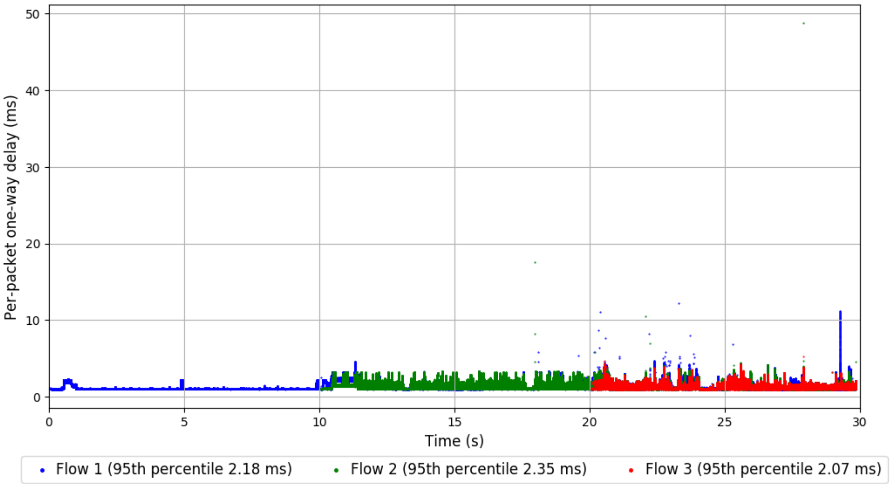
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-06-30 14:13:13
End at: 2018-06-30 14:13:43
Local clock offset: 3.656 ms
Remote clock offset: 3.027 ms

# Below is generated by plot.py at 2018-06-30 20:01:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 796.09 Mbit/s
95th percentile per-packet one-way delay: 2.199 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 597.05 Mbit/s
95th percentile per-packet one-way delay: 2.178 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 216.56 Mbit/s
95th percentile per-packet one-way delay: 2.349 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 167.99 Mbit/s
95th percentile per-packet one-way delay: 2.070 ms
Loss rate: 0.24%
```

Run 1: Report of PCC-Allegro — Data Link



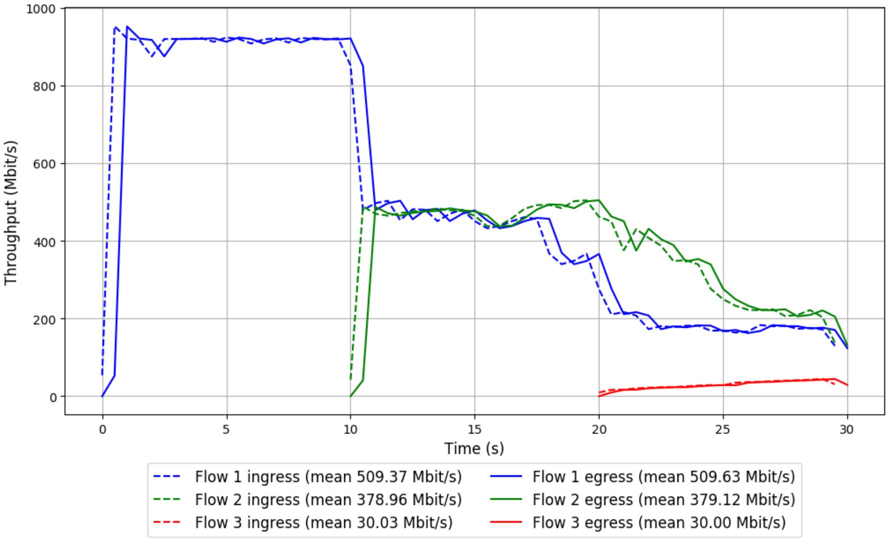


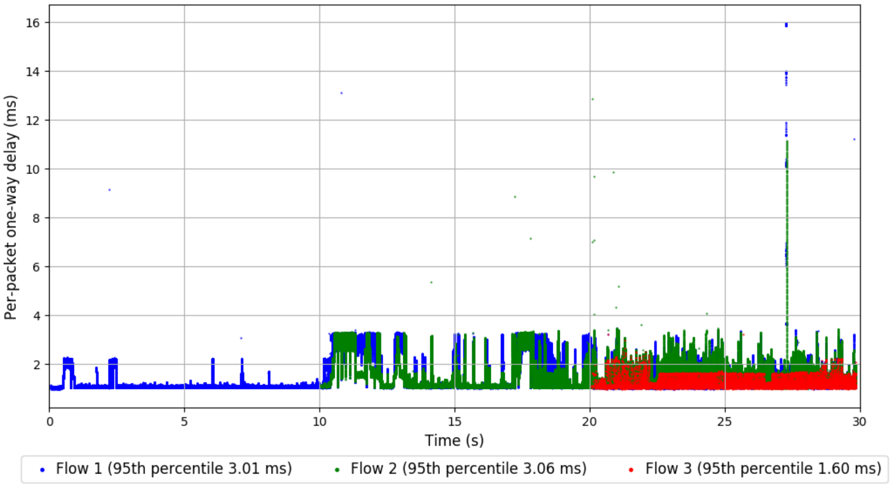
```
Run 2: Statistics of PCC-Allegro

Start at: 2018-06-30 14:39:44
End at: 2018-06-30 14:40:14
Local clock offset: 3.209 ms
Remote clock offset: 2.809 ms

# Below is generated by plot.py at 2018-06-30 20:01:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 771.28 Mbit/s
95th percentile per-packet one-way delay: 3.027 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 509.63 Mbit/s
95th percentile per-packet one-way delay: 3.012 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 379.12 Mbit/s
95th percentile per-packet one-way delay: 3.062 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 30.00 Mbit/s
95th percentile per-packet one-way delay: 1.596 ms
Loss rate: 0.29%
```

Run 2: Report of PCC-Allegro — Data Link



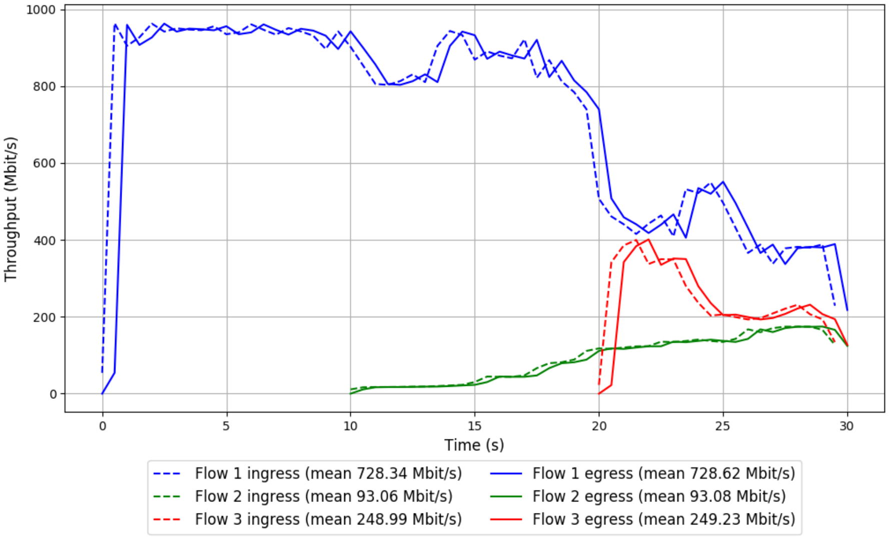


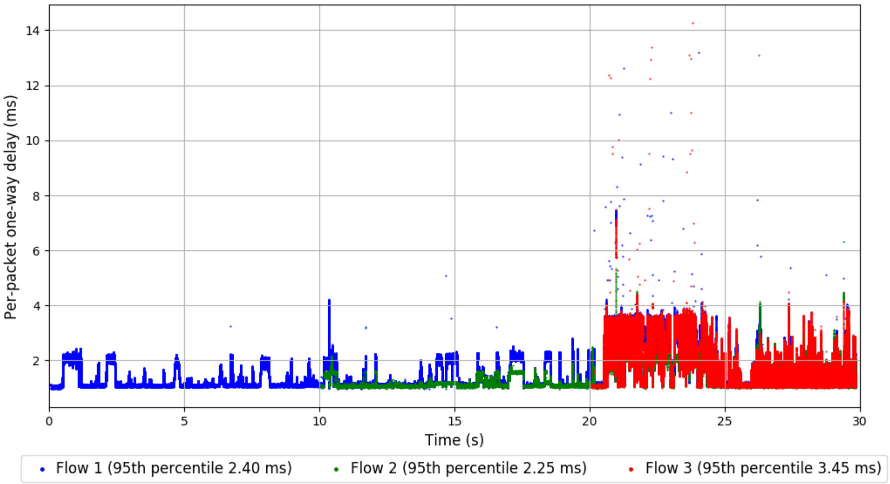
```
Run 3: Statistics of PCC-Allegro

Start at: 2018-06-30 15:06:21
End at: 2018-06-30 15:06:51
Local clock offset: -0.107 ms
Remote clock offset: 3.088 ms

# Below is generated by plot.py at 2018-06-30 20:02:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 872.31 Mbit/s
95th percentile per-packet one-way delay: 2.968 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 728.62 Mbit/s
95th percentile per-packet one-way delay: 2.396 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 93.08 Mbit/s
95th percentile per-packet one-way delay: 2.252 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 249.23 Mbit/s
95th percentile per-packet one-way delay: 3.449 ms
Loss rate: 0.15%
```

Run 3: Report of PCC-Allegro — Data Link



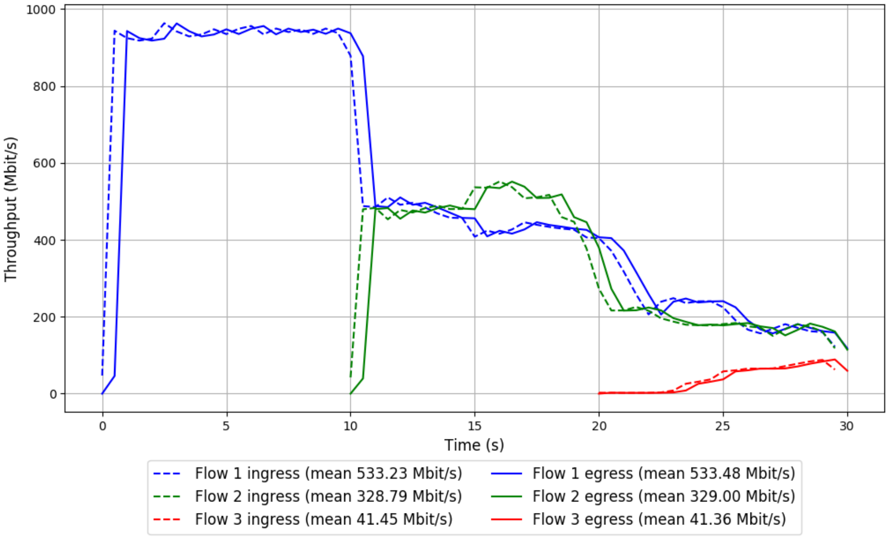


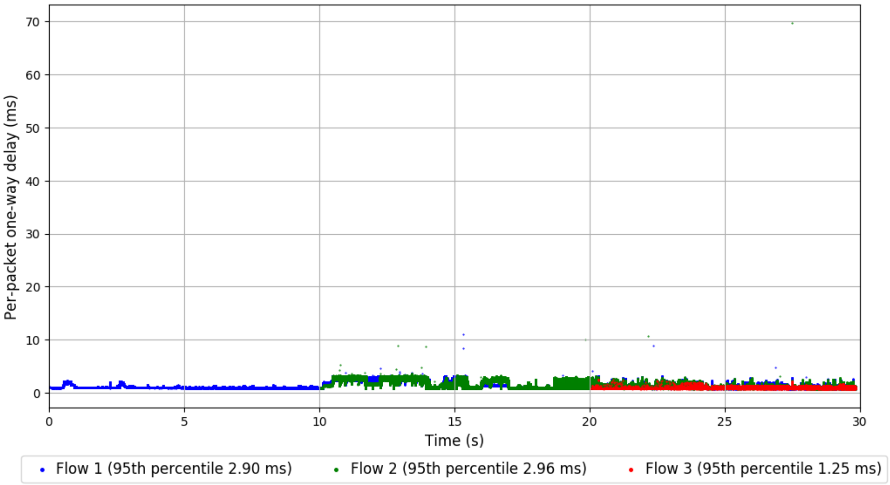
```
Run 4: Statistics of PCC-Allegro

Start at: 2018-06-30 15:32:57
End at: 2018-06-30 15:33:27
Local clock offset: 3.206 ms
Remote clock offset: 1.921 ms

# Below is generated by plot.py at 2018-06-30 20:02:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 765.61 Mbit/s
95th percentile per-packet one-way delay: 2.929 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 533.48 Mbit/s
95th percentile per-packet one-way delay: 2.898 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 329.00 Mbit/s
95th percentile per-packet one-way delay: 2.959 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 41.36 Mbit/s
95th percentile per-packet one-way delay: 1.249 ms
Loss rate: 0.40%
```

Run 4: Report of PCC-Allegro — Data Link



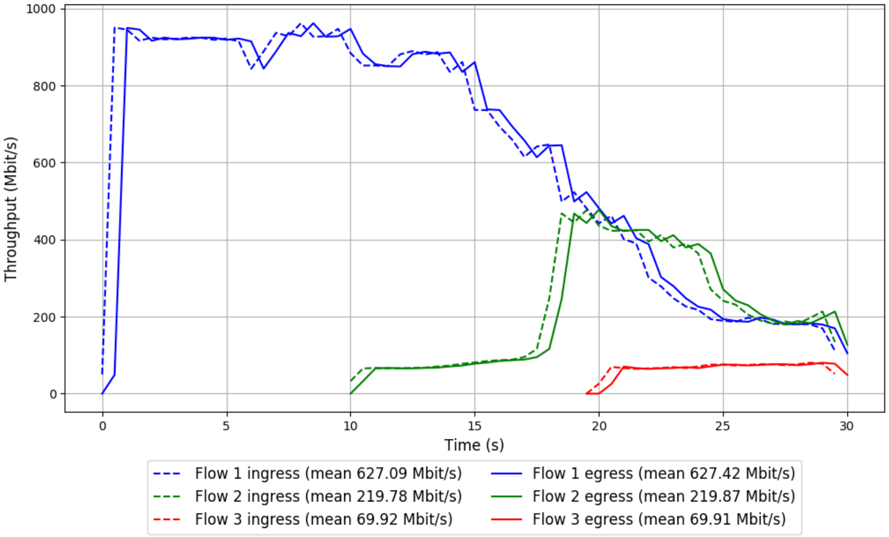


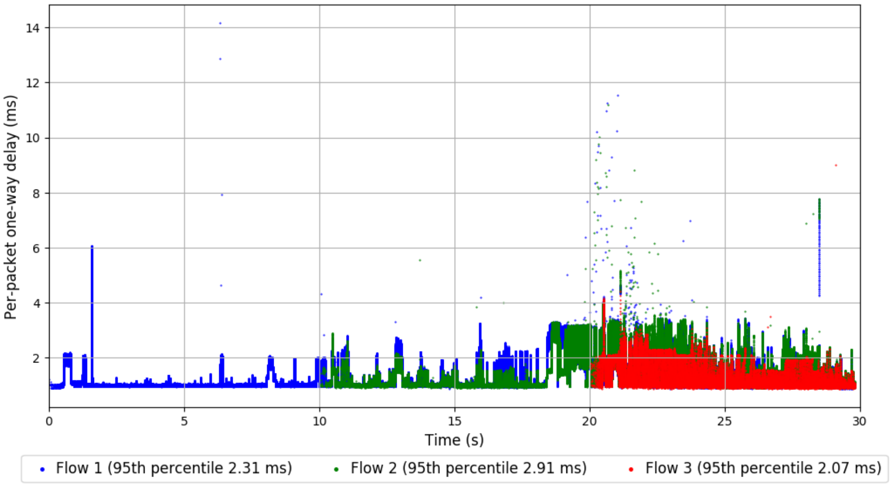
```
Run 5: Statistics of PCC-Allegro

Start at: 2018-06-30 15:59:28
End at: 2018-06-30 15:59:58
Local clock offset: 3.271 ms
Remote clock offset: -0.838 ms

# Below is generated by plot.py at 2018-06-30 20:02:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 796.51 Mbit/s
95th percentile per-packet one-way delay: 2.570 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 627.42 Mbit/s
95th percentile per-packet one-way delay: 2.307 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 219.87 Mbit/s
95th percentile per-packet one-way delay: 2.911 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 69.91 Mbit/s
95th percentile per-packet one-way delay: 2.072 ms
Loss rate: 0.21%
```

Run 5: Report of PCC-Allegro — Data Link



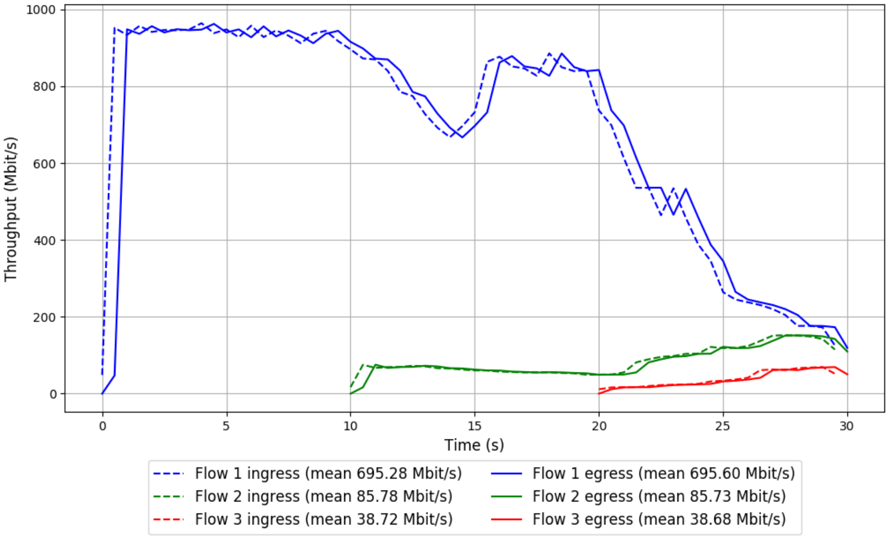


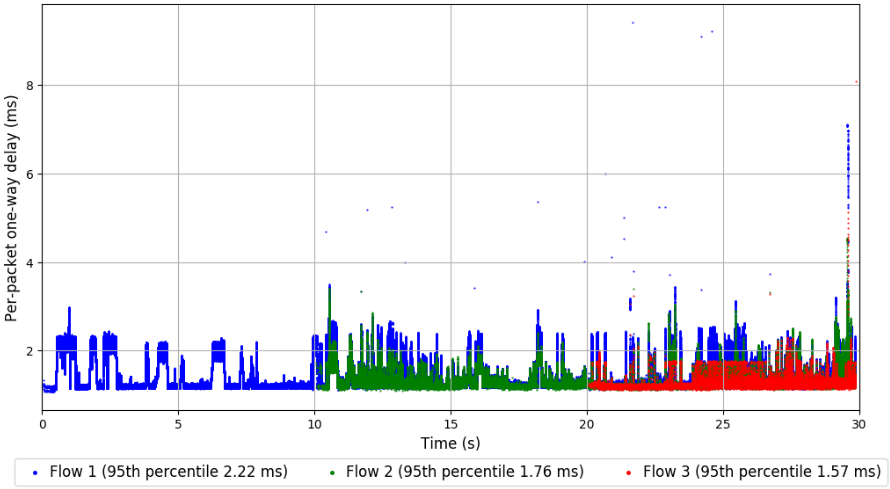
```
Run 6: Statistics of PCC-Allegro

Start at: 2018-06-30 16:25:57
End at: 2018-06-30 16:26:27
Local clock offset: 0.95 ms
Remote clock offset: -0.265 ms

# Below is generated by plot.py at 2018-06-30 20:02:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 765.02 Mbit/s
95th percentile per-packet one-way delay: 2.208 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 695.60 Mbit/s
95th percentile per-packet one-way delay: 2.217 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 85.73 Mbit/s
95th percentile per-packet one-way delay: 1.761 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 38.68 Mbit/s
95th percentile per-packet one-way delay: 1.568 ms
Loss rate: 0.23%
```

Run 6: Report of PCC-Allegro — Data Link



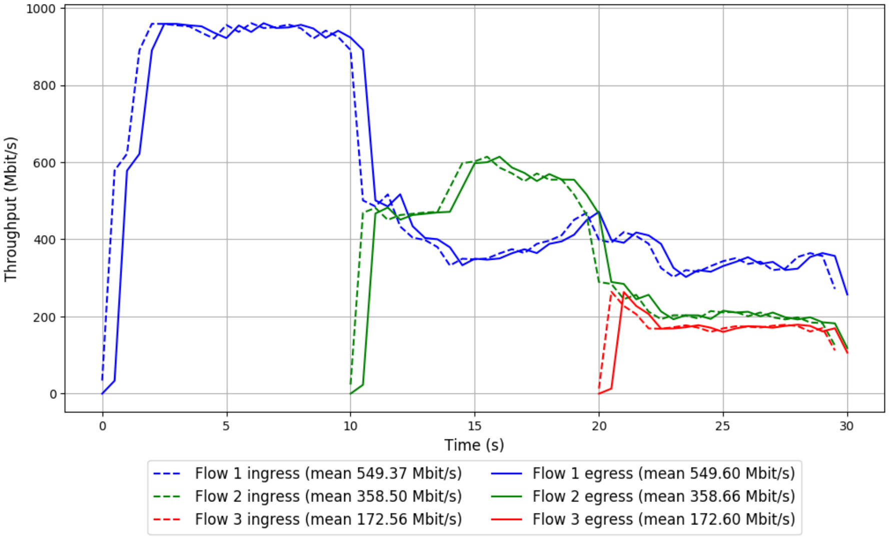


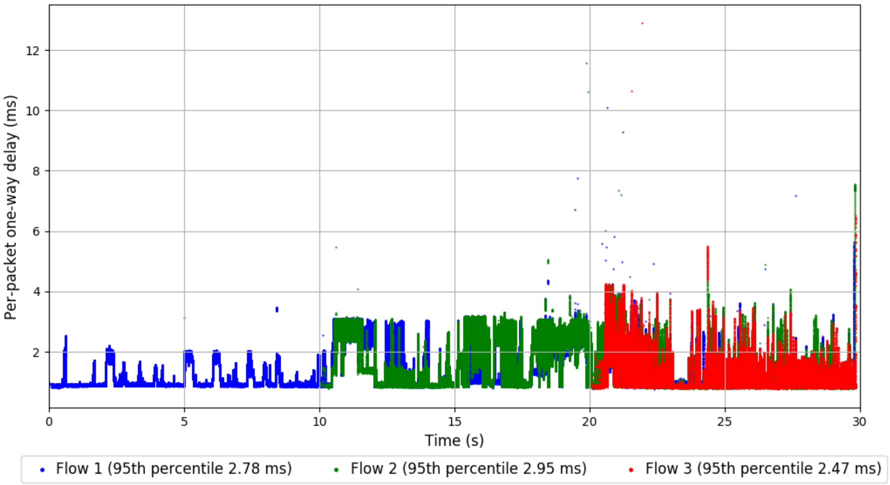
```
Run 7: Statistics of PCC-Allegro

Start at: 2018-06-30 16:52:27
End at: 2018-06-30 16:52:57
Local clock offset: 1.527 ms
Remote clock offset: 2.934 ms

# Below is generated by plot.py at 2018-06-30 20:06:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 844.41 Mbit/s
95th percentile per-packet one-way delay: 2.878 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 549.60 Mbit/s
95th percentile per-packet one-way delay: 2.783 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 358.66 Mbit/s
95th percentile per-packet one-way delay: 2.952 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 172.60 Mbit/s
95th percentile per-packet one-way delay: 2.468 ms
Loss rate: 0.18%
```

Run 7: Report of PCC-Allegro — Data Link



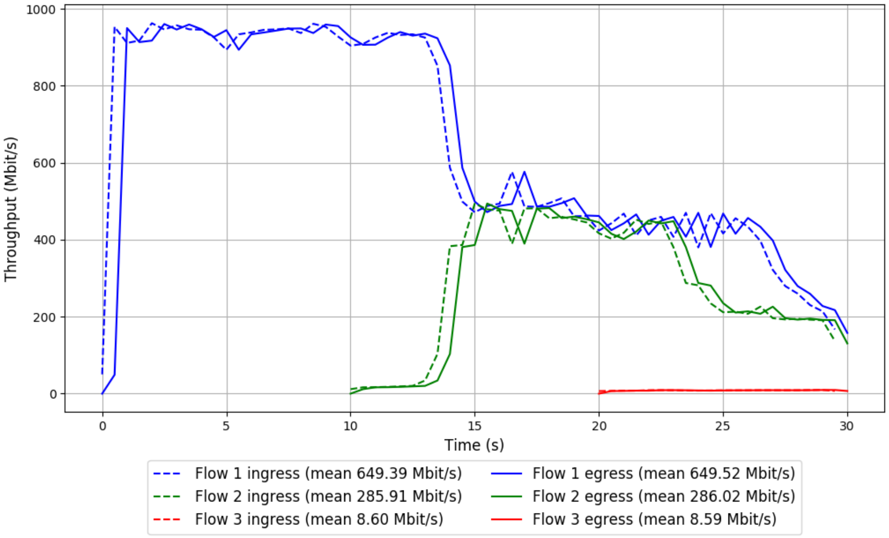


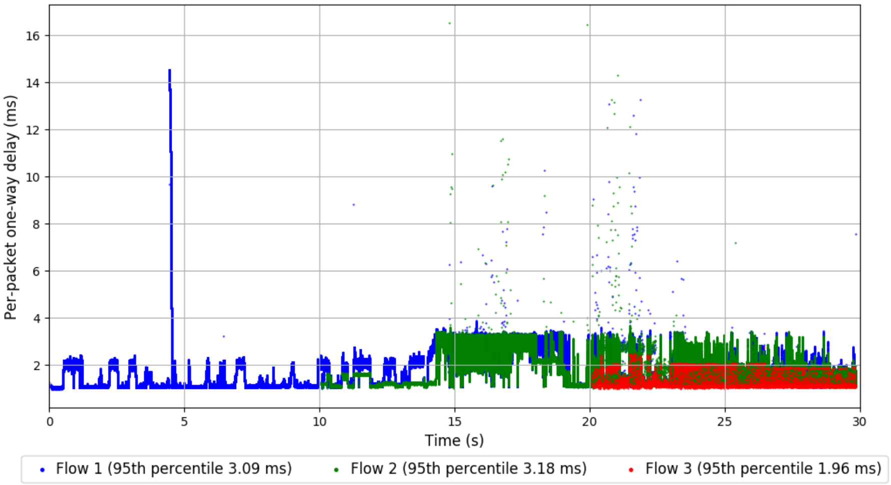
```
Run 8: Statistics of PCC-Allegro

Start at: 2018-06-30 17:19:09
End at: 2018-06-30 17:19:39
Local clock offset: 2.238 ms
Remote clock offset: 3.594 ms

# Below is generated by plot.py at 2018-06-30 20:06:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 842.26 Mbit/s
95th percentile per-packet one-way delay: 3.130 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 649.52 Mbit/s
95th percentile per-packet one-way delay: 3.090 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 286.02 Mbit/s
95th percentile per-packet one-way delay: 3.177 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 1.956 ms
Loss rate: 0.24%
```

Run 8: Report of PCC-Allegro — Data Link



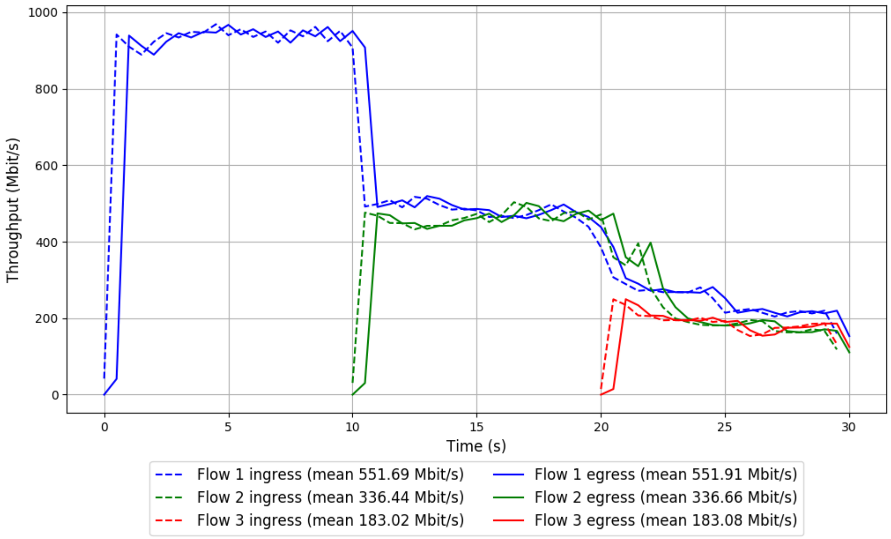


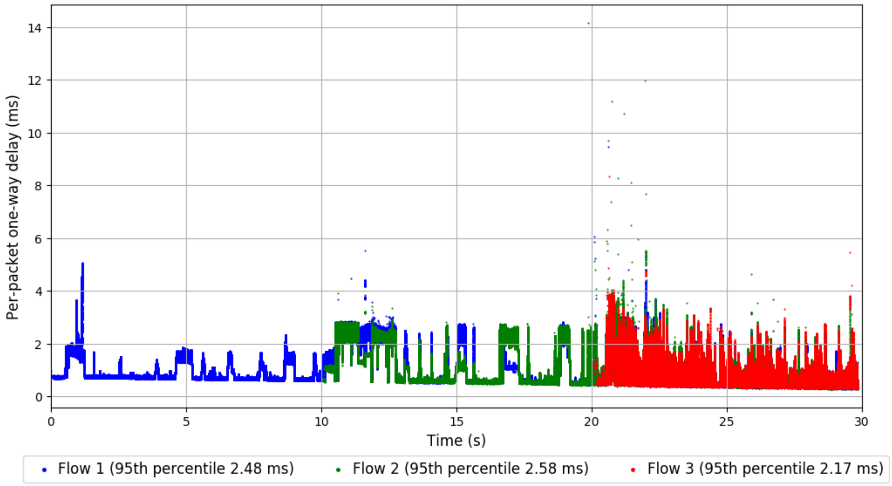
```
Run 9: Statistics of PCC-Allegro

Start at: 2018-06-30 17:45:47
End at: 2018-06-30 17:46:17
Local clock offset: 0.17 ms
Remote clock offset: 3.378 ms

# Below is generated by plot.py at 2018-06-30 20:10:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 835.48 Mbit/s
95th percentile per-packet one-way delay: 2.510 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 551.91 Mbit/s
95th percentile per-packet one-way delay: 2.479 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 336.66 Mbit/s
95th percentile per-packet one-way delay: 2.577 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 183.08 Mbit/s
95th percentile per-packet one-way delay: 2.170 ms
Loss rate: 0.22%
```

Run 9: Report of PCC-Allegro — Data Link



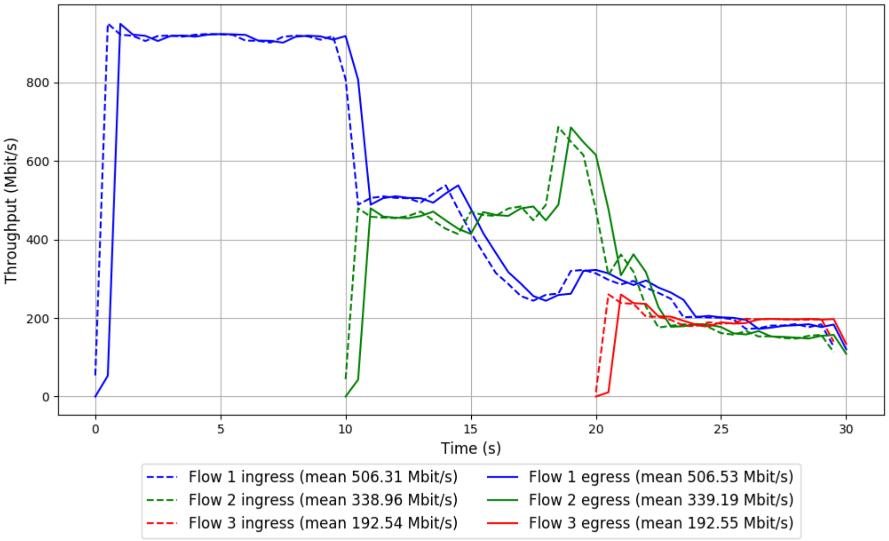


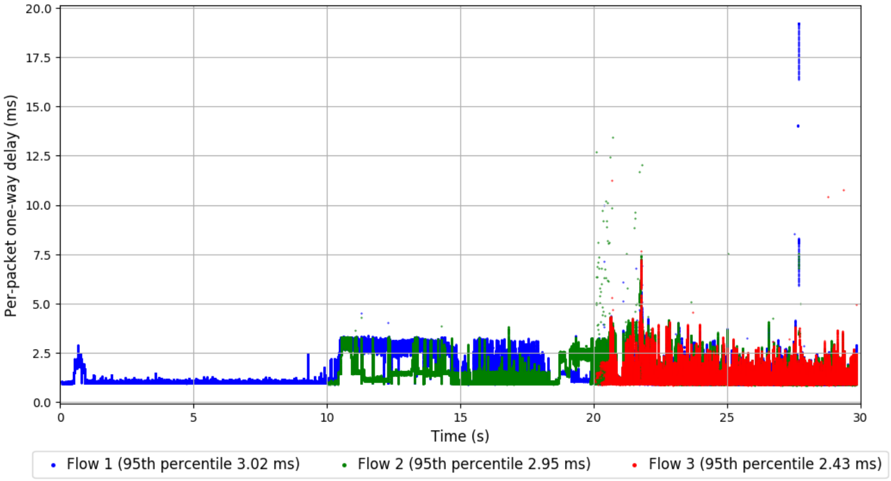
```
Run 10: Statistics of PCC-Allegro

Start at: 2018-06-30 18:12:10
End at: 2018-06-30 18:12:40
Local clock offset: 4.006 ms
Remote clock offset: -0.878 ms

# Below is generated by plot.py at 2018-06-30 20:10:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 795.17 Mbit/s
95th percentile per-packet one-way delay: 2.999 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 506.53 Mbit/s
95th percentile per-packet one-way delay: 3.020 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 339.19 Mbit/s
95th percentile per-packet one-way delay: 2.947 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 192.55 Mbit/s
95th percentile per-packet one-way delay: 2.434 ms
Loss rate: 0.16%
```

Run 10: Report of PCC-Allegro — Data Link



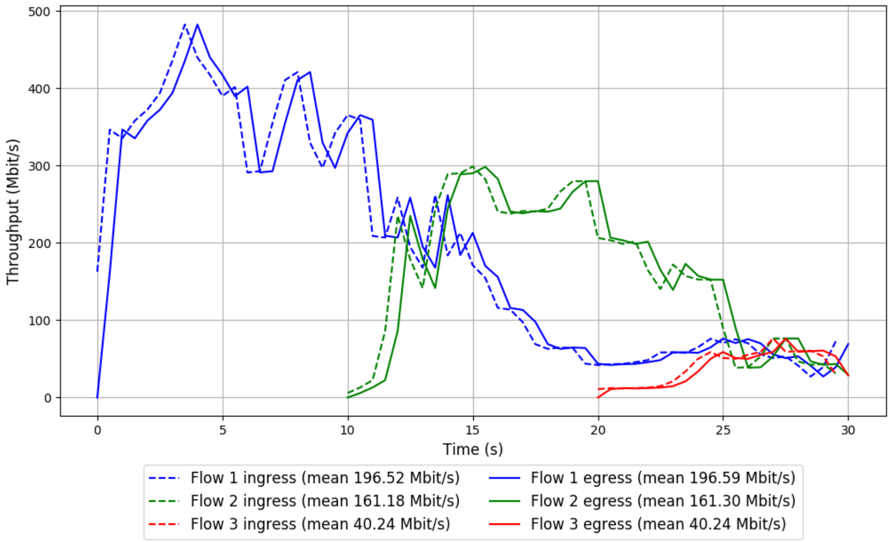


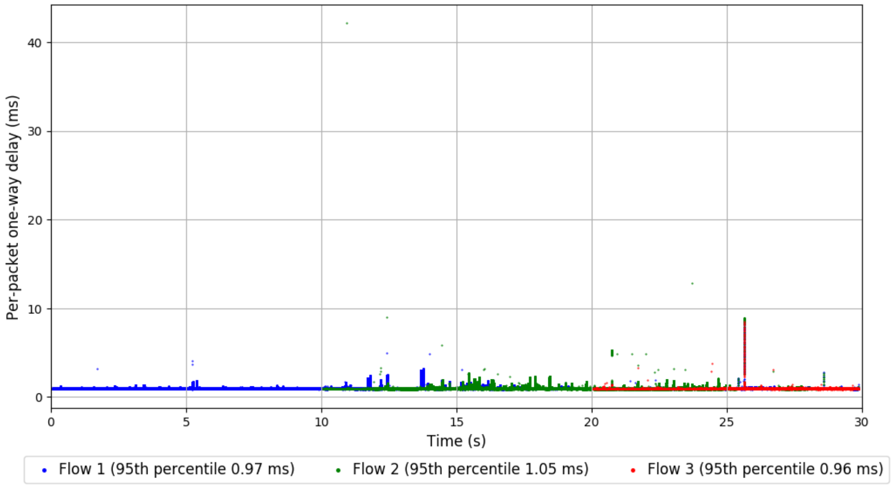
```
Run 1: Statistics of PCC-Expr

Start at: 2018-06-30 14:35:29
End at: 2018-06-30 14:35:59
Local clock offset: 3.104 ms
Remote clock offset: 2.818 ms

# Below is generated by plot.py at 2018-06-30 20:10:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.03 Mbit/s
95th percentile per-packet one-way delay: 0.980 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 196.59 Mbit/s
95th percentile per-packet one-way delay: 0.970 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 161.30 Mbit/s
95th percentile per-packet one-way delay: 1.046 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 40.24 Mbit/s
95th percentile per-packet one-way delay: 0.957 ms
Loss rate: 0.18%
```

Run 1: Report of PCC-Expr — Data Link



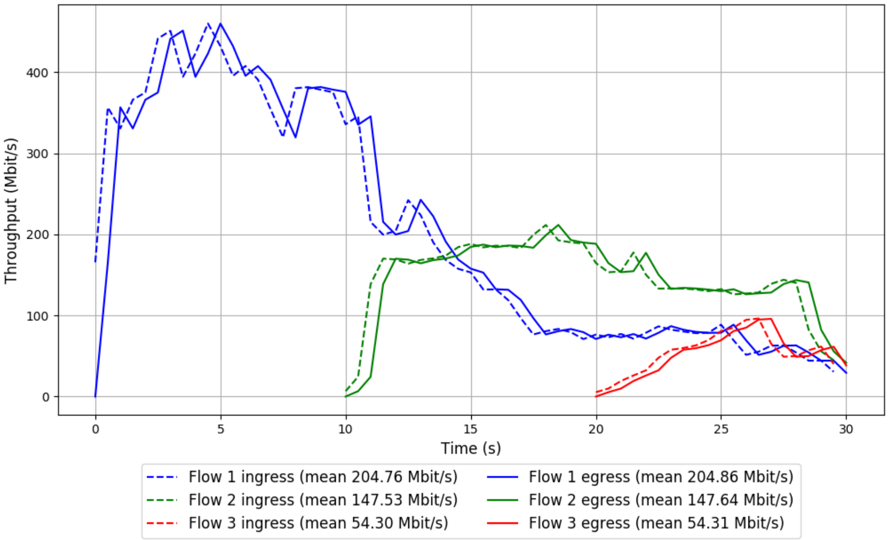


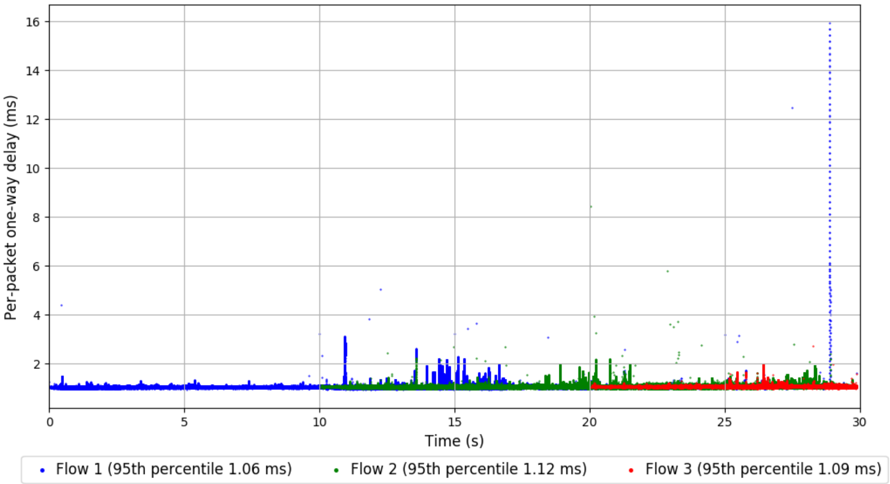
```
Run 2: Statistics of PCC-Expr

Start at: 2018-06-30 15:02:06
End at: 2018-06-30 15:02:36
Local clock offset: 0.187 ms
Remote clock offset: 3.111 ms

# Below is generated by plot.py at 2018-06-30 20:10:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 320.86 Mbit/s
95th percentile per-packet one-way delay: 1.084 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 204.86 Mbit/s
95th percentile per-packet one-way delay: 1.063 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 147.64 Mbit/s
95th percentile per-packet one-way delay: 1.116 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 54.31 Mbit/s
95th percentile per-packet one-way delay: 1.093 ms
Loss rate: 0.17%
```

Run 2: Report of PCC-Expr — Data Link



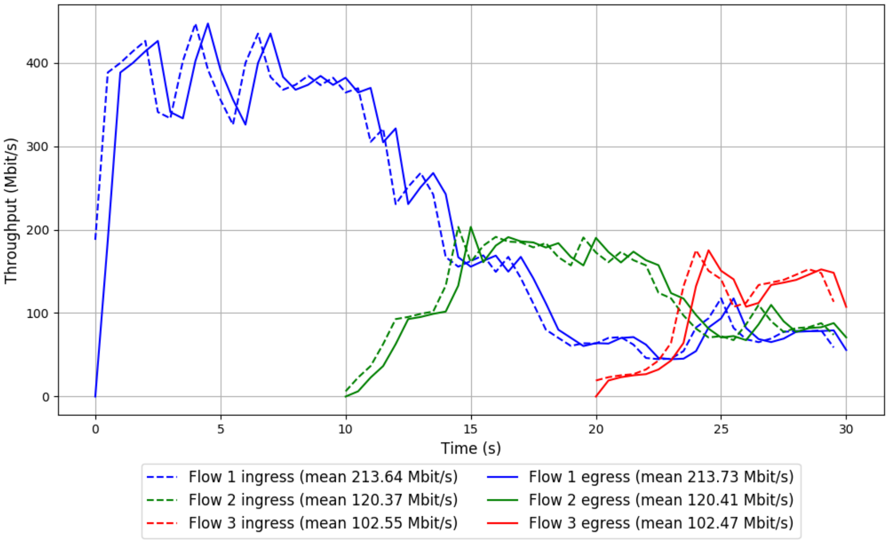


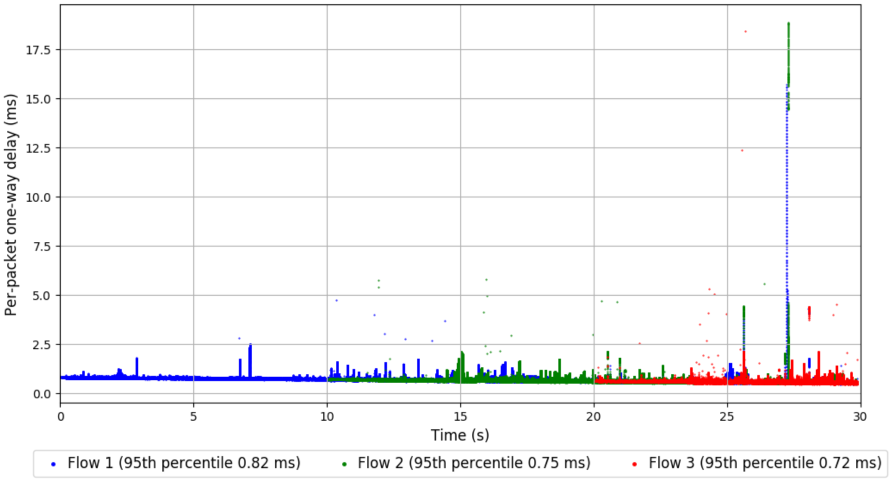
```
Run 3: Statistics of PCC-Expr

Start at: 2018-06-30 15:28:43
End at: 2018-06-30 15:29:13
Local clock offset: 2.721 ms
Remote clock offset: 3.424 ms

# Below is generated by plot.py at 2018-06-30 20:10:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.52 Mbit/s
95th percentile per-packet one-way delay: 0.818 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 213.73 Mbit/s
95th percentile per-packet one-way delay: 0.823 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 120.41 Mbit/s
95th percentile per-packet one-way delay: 0.746 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 102.47 Mbit/s
95th percentile per-packet one-way delay: 0.720 ms
Loss rate: 0.30%
```

Run 3: Report of PCC-Expr — Data Link



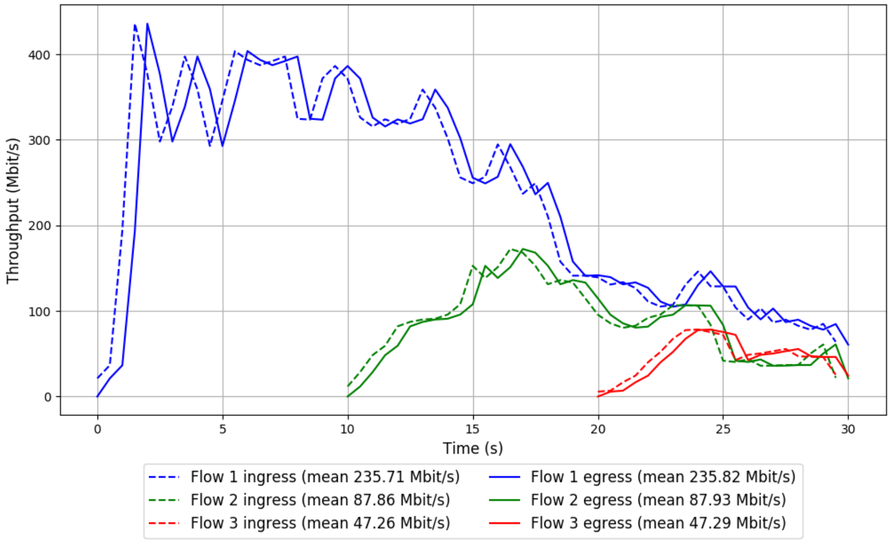


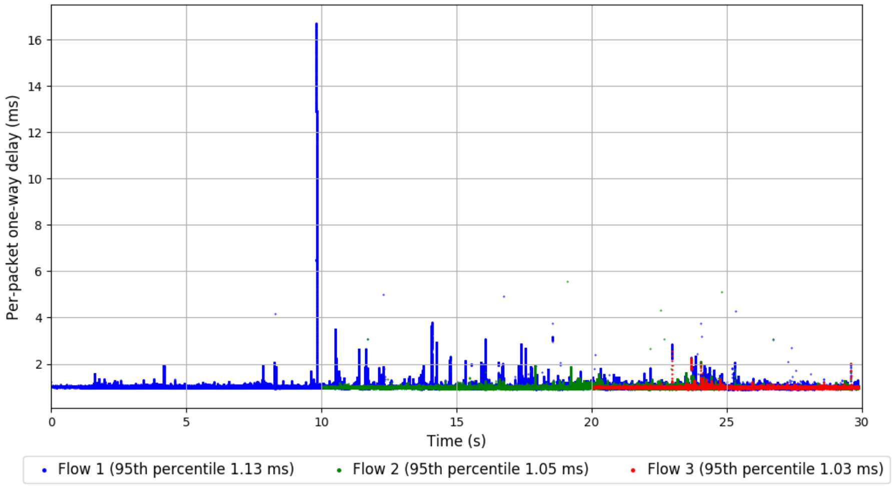
```
Run 4: Statistics of PCC-Expr

Start at: 2018-06-30 15:55:15
End at: 2018-06-30 15:55:45
Local clock offset: 3.415 ms
Remote clock offset: -0.595 ms

# Below is generated by plot.py at 2018-06-30 20:10:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.86 Mbit/s
95th percentile per-packet one-way delay: 1.102 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 235.82 Mbit/s
95th percentile per-packet one-way delay: 1.131 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 87.93 Mbit/s
95th percentile per-packet one-way delay: 1.048 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 47.29 Mbit/s
95th percentile per-packet one-way delay: 1.031 ms
Loss rate: 0.13%
```

Run 4: Report of PCC-Expr — Data Link



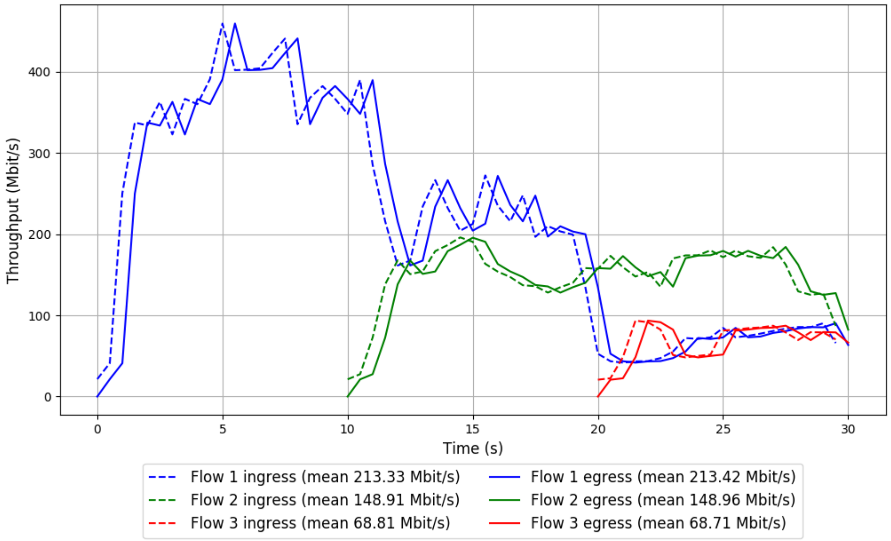


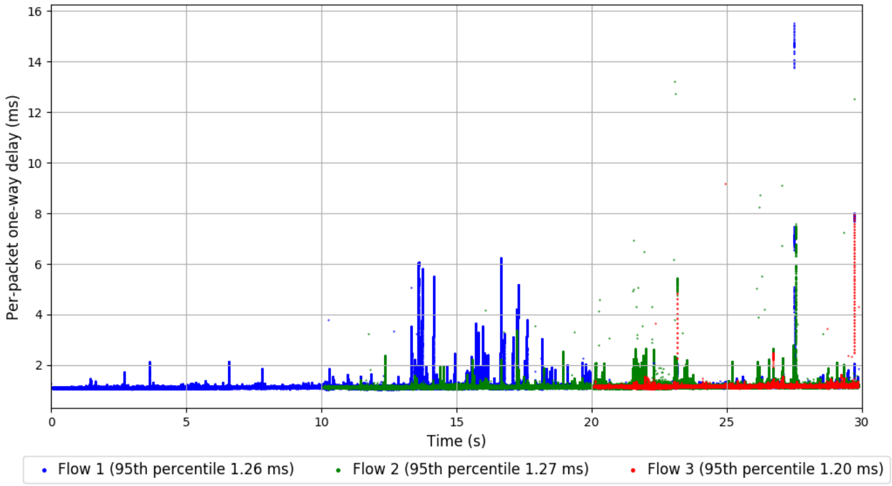
```
Run 5: Statistics of PCC-Expr

Start at: 2018-06-30 16:21:42
End at: 2018-06-30 16:22:12
Local clock offset: 1.553 ms
Remote clock offset: -0.244 ms

# Below is generated by plot.py at 2018-06-30 20:13:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 335.03 Mbit/s
95th percentile per-packet one-way delay: 1.251 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 213.42 Mbit/s
95th percentile per-packet one-way delay: 1.258 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 148.96 Mbit/s
95th percentile per-packet one-way delay: 1.270 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 68.71 Mbit/s
95th percentile per-packet one-way delay: 1.196 ms
Loss rate: 0.29%
```

Run 5: Report of PCC-Expr — Data Link



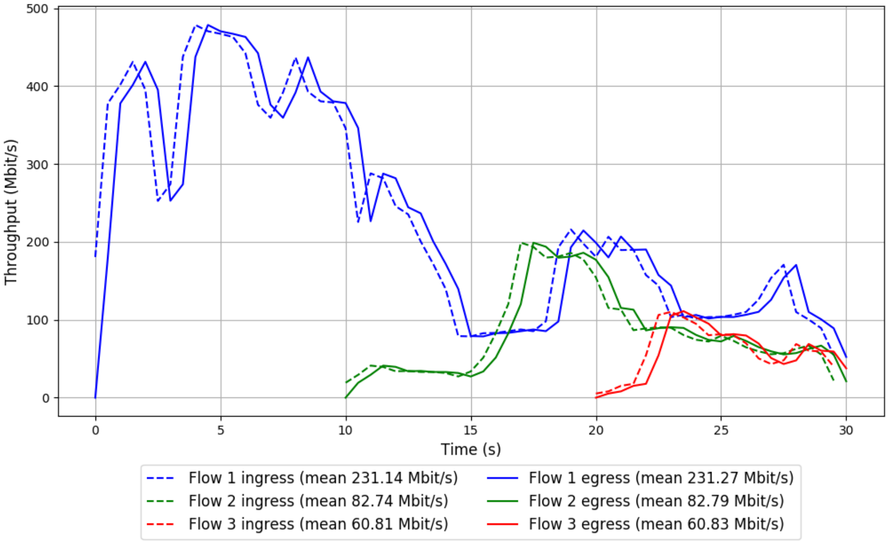


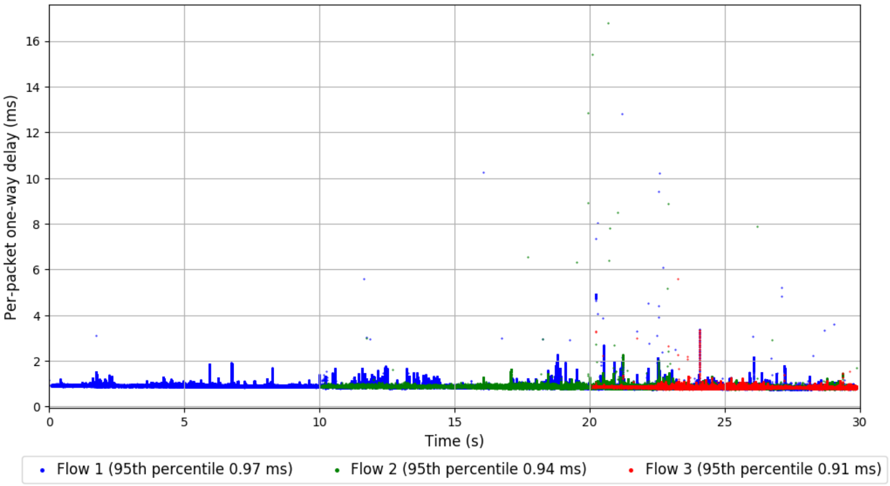
```
Run 6: Statistics of PCC-Expr

Start at: 2018-06-30 16:48:14
End at: 2018-06-30 16:48:44
Local clock offset: 0.526 ms
Remote clock offset: 2.434 ms

# Below is generated by plot.py at 2018-06-30 20:13:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 306.28 Mbit/s
95th percentile per-packet one-way delay: 0.964 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 231.27 Mbit/s
95th percentile per-packet one-way delay: 0.972 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 82.79 Mbit/s
95th percentile per-packet one-way delay: 0.935 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 60.83 Mbit/s
95th percentile per-packet one-way delay: 0.913 ms
Loss rate: 0.19%
```

Run 6: Report of PCC-Expr — Data Link



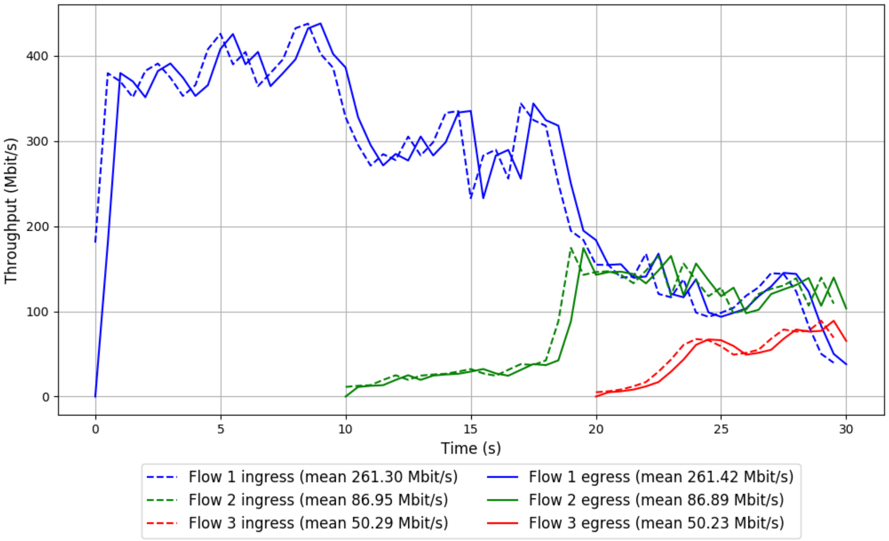


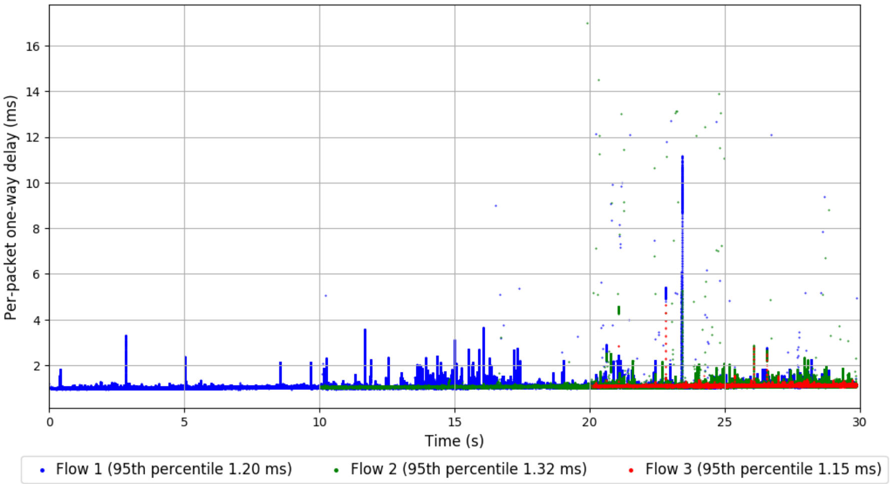
```
Run 7: Statistics of PCC-Expr

Start at: 2018-06-30 17:14:54
End at: 2018-06-30 17:15:24
Local clock offset: 3.38 ms
Remote clock offset: 3.759 ms

# Below is generated by plot.py at 2018-06-30 20:15:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 335.64 Mbit/s
95th percentile per-packet one-way delay: 1.224 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 261.42 Mbit/s
95th percentile per-packet one-way delay: 1.200 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 86.89 Mbit/s
95th percentile per-packet one-way delay: 1.320 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 50.23 Mbit/s
95th percentile per-packet one-way delay: 1.150 ms
Loss rate: 0.40%
```

Run 7: Report of PCC-Expr — Data Link



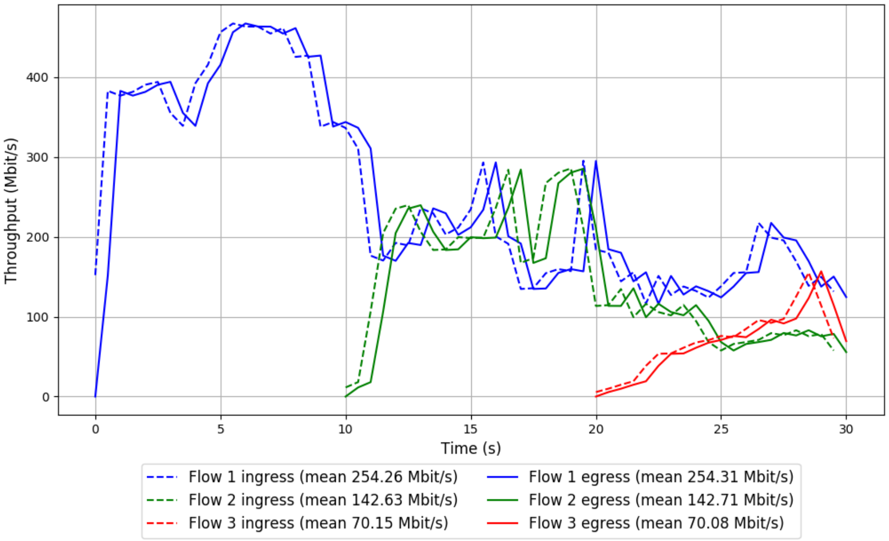


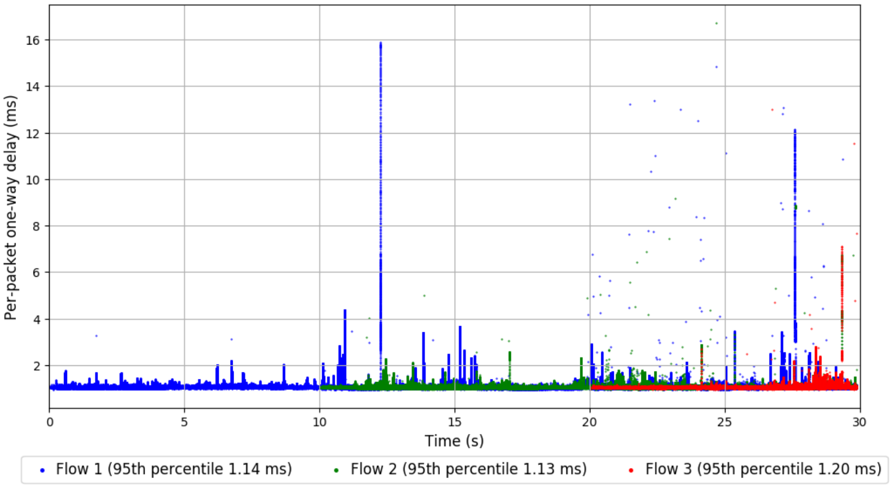
```
Run 8: Statistics of PCC-Expr

Start at: 2018-06-30 17:41:30
End at: 2018-06-30 17:42:00
Local clock offset: 0.093 ms
Remote clock offset: 3.552 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.21 Mbit/s
95th percentile per-packet one-way delay: 1.138 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 254.31 Mbit/s
95th percentile per-packet one-way delay: 1.136 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 142.71 Mbit/s
95th percentile per-packet one-way delay: 1.129 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 70.08 Mbit/s
95th percentile per-packet one-way delay: 1.199 ms
Loss rate: 0.25%
```

Run 8: Report of PCC-Expr — Data Link



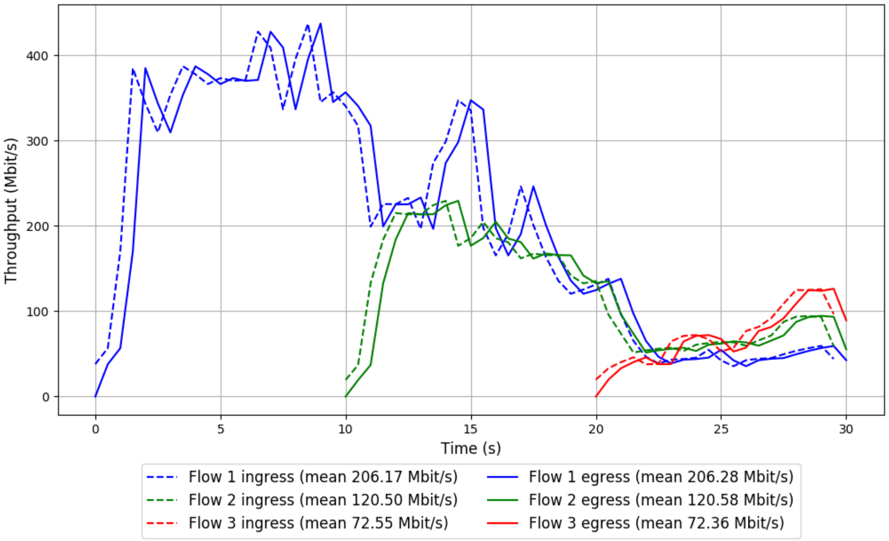


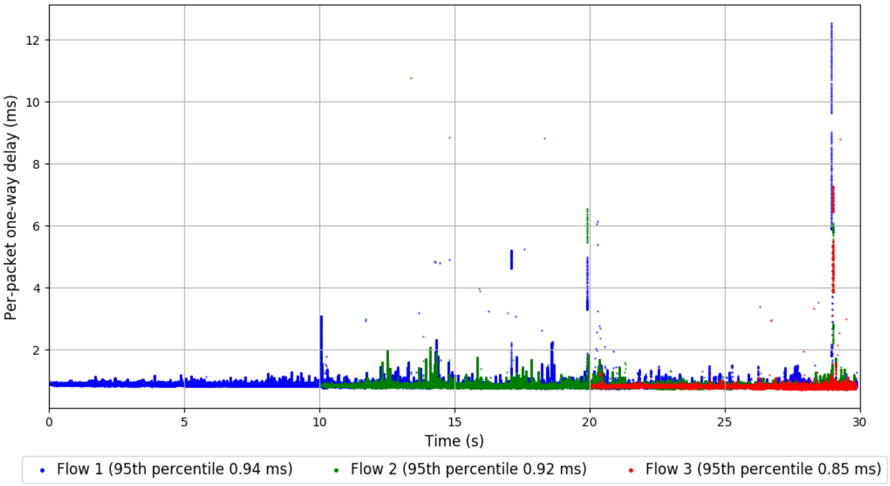
```
Run 9: Statistics of PCC-Expr

Start at: 2018-06-30 18:07:57
End at: 2018-06-30 18:08:27
Local clock offset: 3.706 ms
Remote clock offset: -0.614 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.22 Mbit/s
95th percentile per-packet one-way delay: 0.926 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 206.28 Mbit/s
95th percentile per-packet one-way delay: 0.935 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 120.58 Mbit/s
95th percentile per-packet one-way delay: 0.918 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 72.36 Mbit/s
95th percentile per-packet one-way delay: 0.854 ms
Loss rate: 0.52%
```

Run 9: Report of PCC-Expr — Data Link



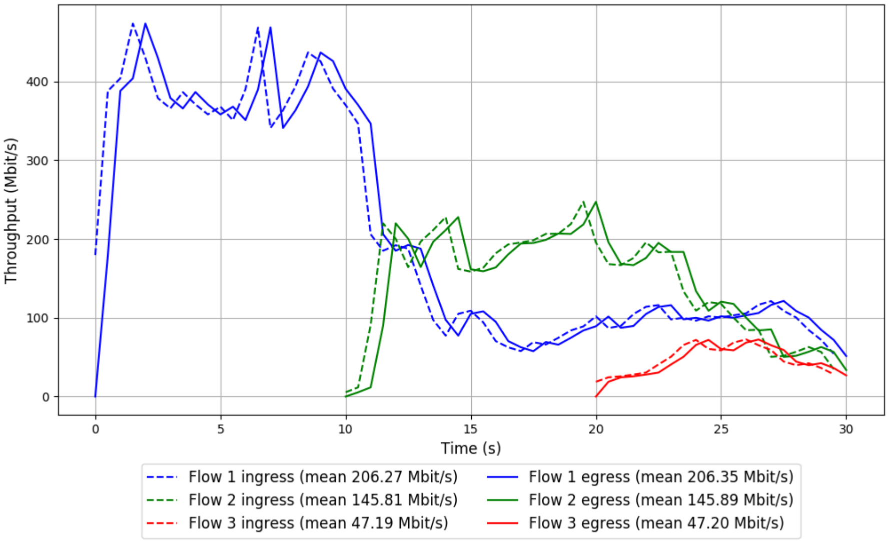


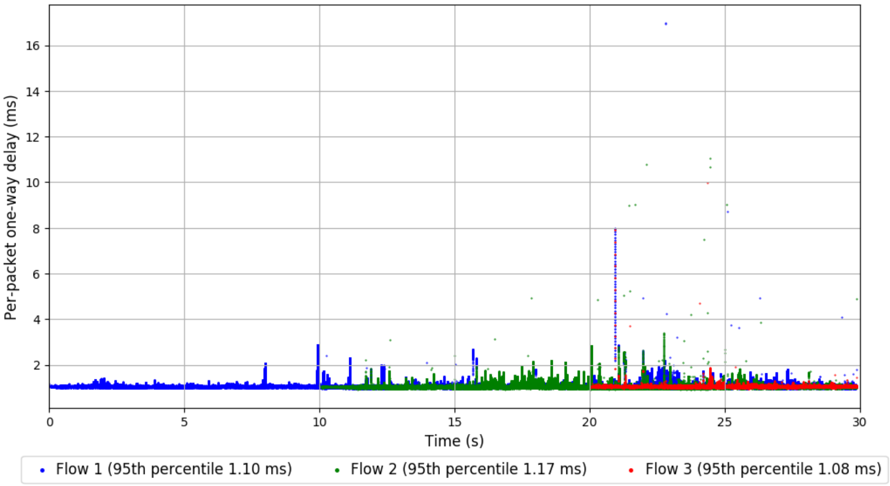
```
Run 10: Statistics of PCC-Expr

Start at: 2018-06-30 18:34:34
End at: 2018-06-30 18:35:04
Local clock offset: 3.67 ms
Remote clock offset: -0.744 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 318.87 Mbit/s
95th percentile per-packet one-way delay: 1.113 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 206.35 Mbit/s
95th percentile per-packet one-way delay: 1.101 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 145.89 Mbit/s
95th percentile per-packet one-way delay: 1.173 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 47.20 Mbit/s
95th percentile per-packet one-way delay: 1.085 ms
Loss rate: 0.16%
```

Run 10: Report of PCC-Expr — Data Link



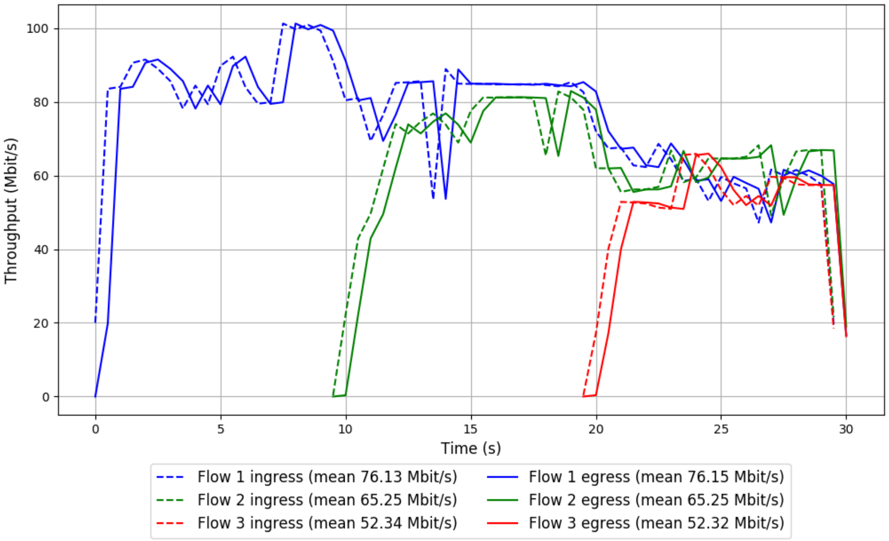


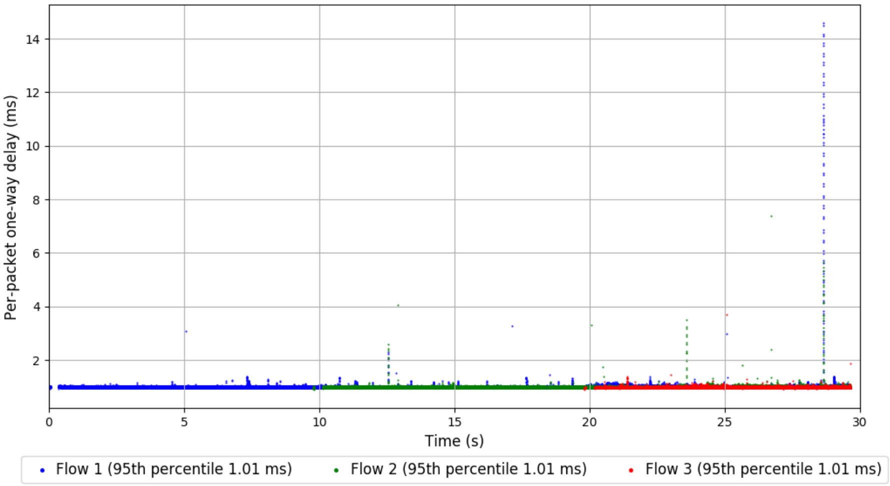
```
Run 1: Statistics of QUIC Cubic

Start at: 2018-06-30 14:25:57
End at: 2018-06-30 14:26:27
Local clock offset: 3.21 ms
Remote clock offset: 2.887 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.33 Mbit/s
95th percentile per-packet one-way delay: 1.013 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 76.15 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 65.25 Mbit/s
95th percentile per-packet one-way delay: 1.012 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 52.32 Mbit/s
95th percentile per-packet one-way delay: 1.006 ms
Loss rate: 0.21%
```

Run 1: Report of QUIC Cubic — Data Link



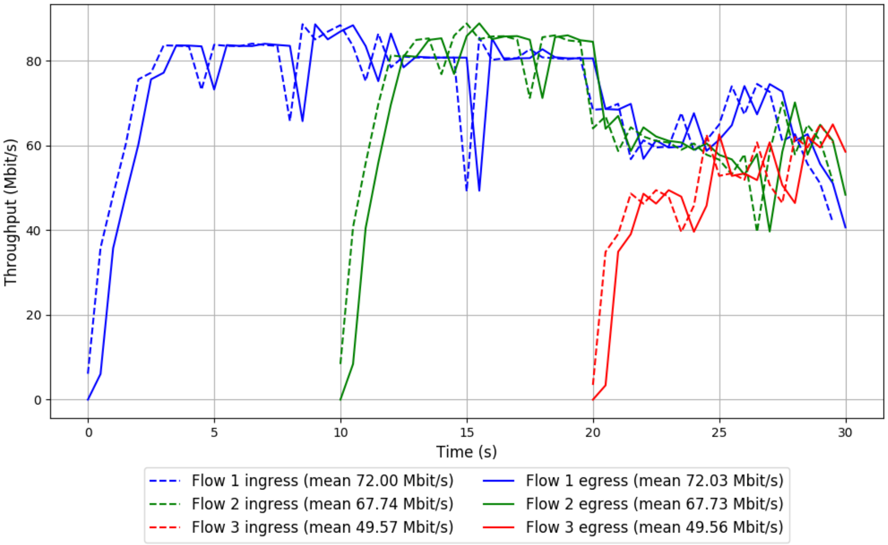


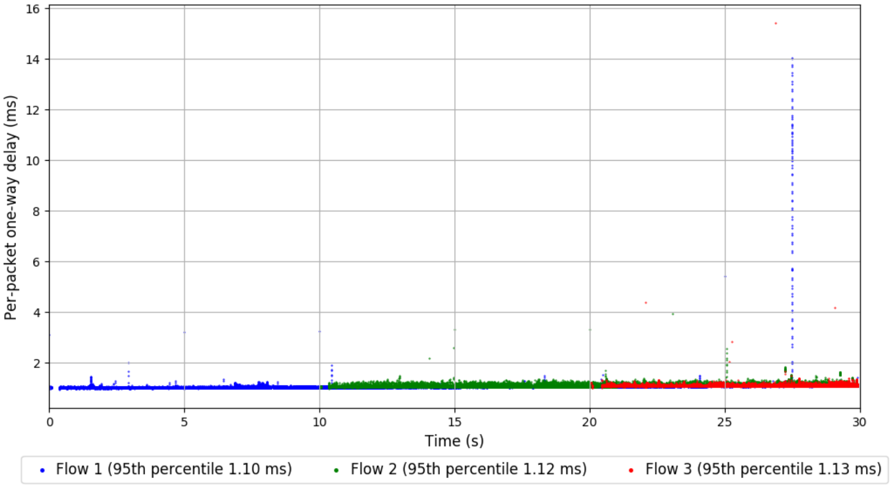
```
Run 2: Statistics of QUIC Cubic

Start at: 2018-06-30 14:52:35
End at: 2018-06-30 14:53:05
Local clock offset: 1.21 ms
Remote clock offset: 3.081 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 133.45 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 72.03 Mbit/s
95th percentile per-packet one-way delay: 1.096 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 67.73 Mbit/s
95th percentile per-packet one-way delay: 1.123 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 49.56 Mbit/s
95th percentile per-packet one-way delay: 1.131 ms
Loss rate: 0.24%
```

Run 2: Report of QUIC Cubic — Data Link



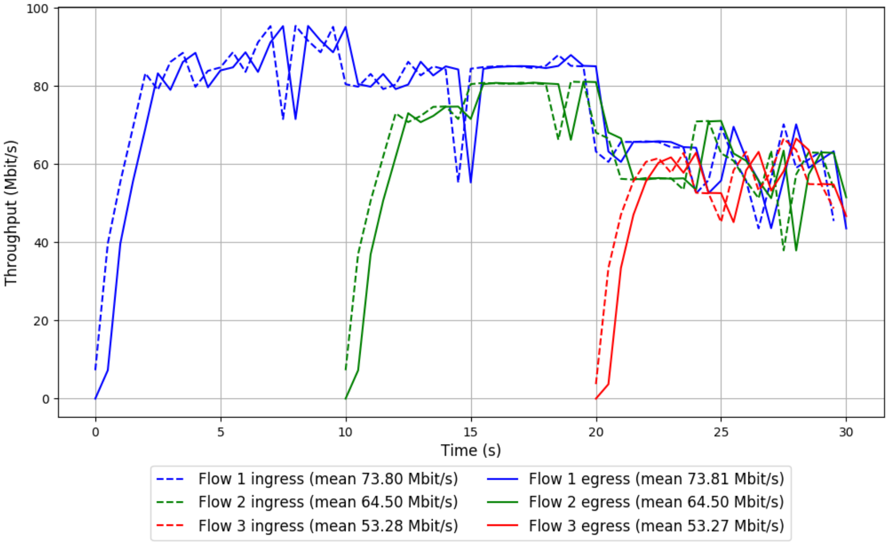


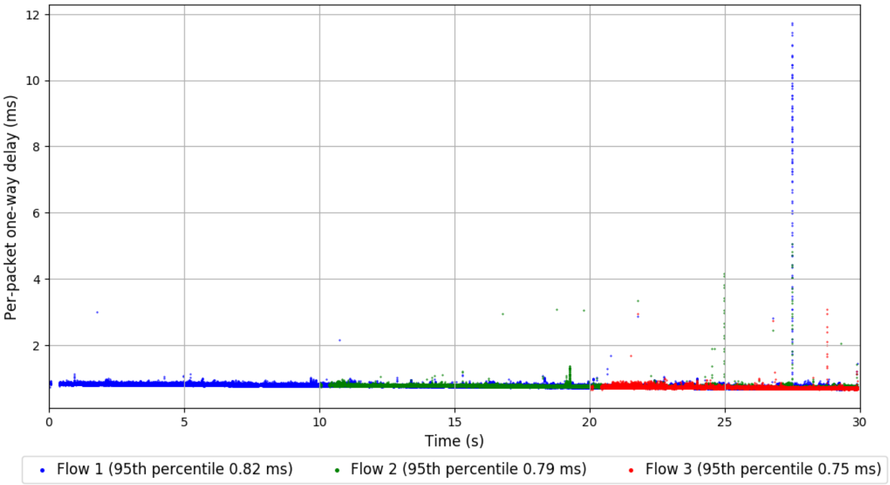
```
Run 3: Statistics of QUIC Cubic

Start at: 2018-06-30 15:19:14
End at: 2018-06-30 15:19:44
Local clock offset: 0.936 ms
Remote clock offset: 3.28 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.29 Mbit/s
95th percentile per-packet one-way delay: 0.812 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 73.81 Mbit/s
95th percentile per-packet one-way delay: 0.821 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 64.50 Mbit/s
95th percentile per-packet one-way delay: 0.788 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 53.27 Mbit/s
95th percentile per-packet one-way delay: 0.746 ms
Loss rate: 0.19%
```

Run 3: Report of QUIC Cubic — Data Link



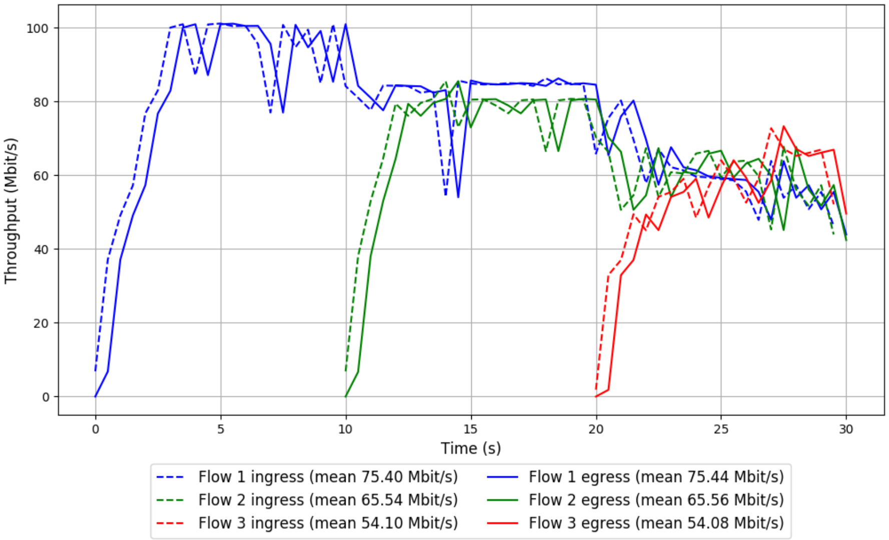


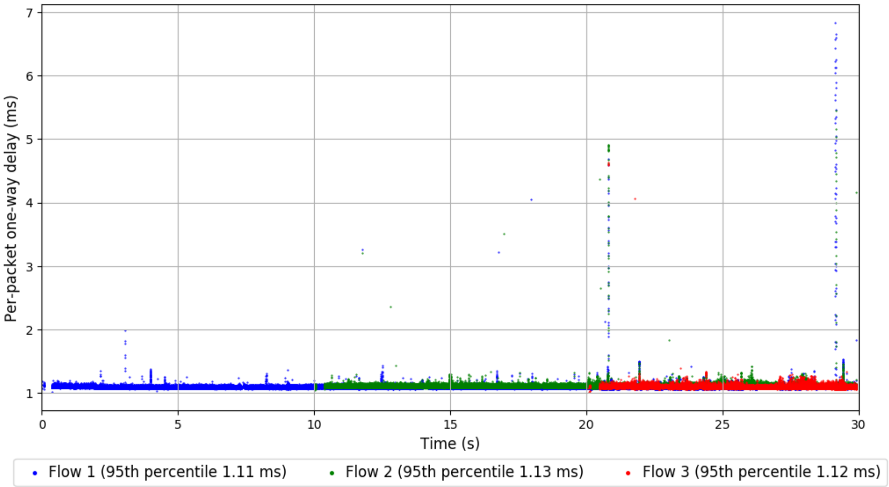
```
Run 4: Statistics of QUIC Cubic

Start at: 2018-06-30 15:45:46
End at: 2018-06-30 15:46:16
Local clock offset: 3.835 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.82 Mbit/s
95th percentile per-packet one-way delay: 1.126 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 75.44 Mbit/s
95th percentile per-packet one-way delay: 1.115 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 65.56 Mbit/s
95th percentile per-packet one-way delay: 1.134 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 54.08 Mbit/s
95th percentile per-packet one-way delay: 1.125 ms
Loss rate: 0.25%
```

Run 4: Report of QUIC Cubic — Data Link



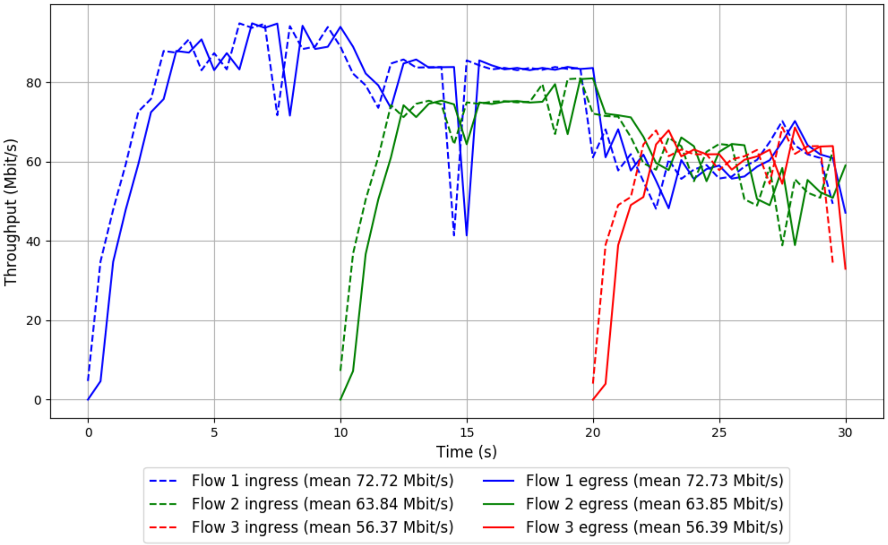


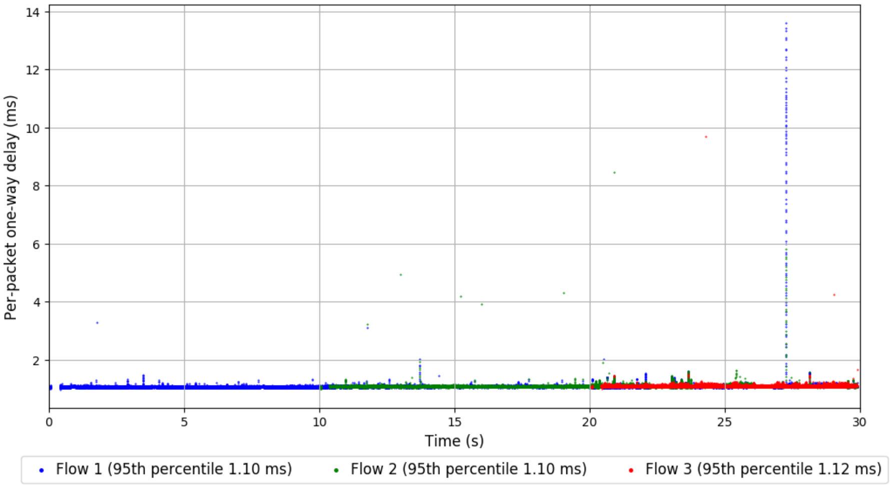
```
Run 5: Statistics of QUIC Cubic

Start at: 2018-06-30 16:12:14
End at: 2018-06-30 16:12:44
Local clock offset: 3.327 ms
Remote clock offset: -0.426 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 133.79 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 72.73 Mbit/s
95th percentile per-packet one-way delay: 1.098 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 63.85 Mbit/s
95th percentile per-packet one-way delay: 1.105 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 56.39 Mbit/s
95th percentile per-packet one-way delay: 1.122 ms
Loss rate: 0.14%
```

Run 5: Report of QUIC Cubic — Data Link



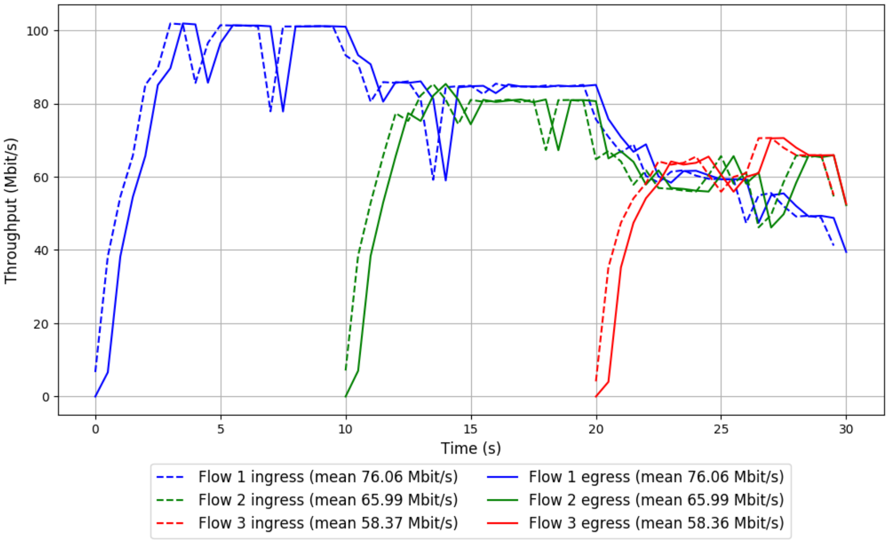


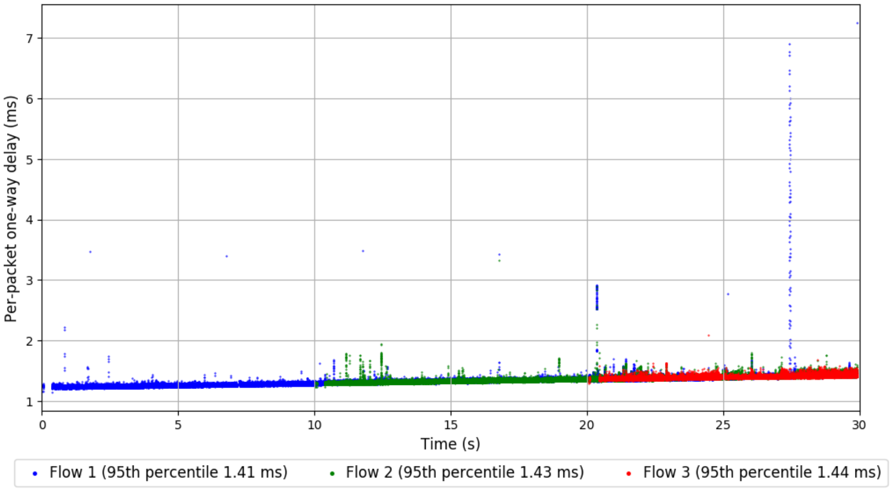
```
Run 6: Statistics of QUIC Cubic

Start at: 2018-06-30 16:38:43
End at: 2018-06-30 16:39:13
Local clock offset: -0.2 ms
Remote clock offset: 0.277 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.21 Mbit/s
95th percentile per-packet one-way delay: 1.422 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 76.06 Mbit/s
95th percentile per-packet one-way delay: 1.414 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 65.99 Mbit/s
95th percentile per-packet one-way delay: 1.425 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 58.36 Mbit/s
95th percentile per-packet one-way delay: 1.436 ms
Loss rate: 0.22%
```

Run 6: Report of QUIC Cubic — Data Link



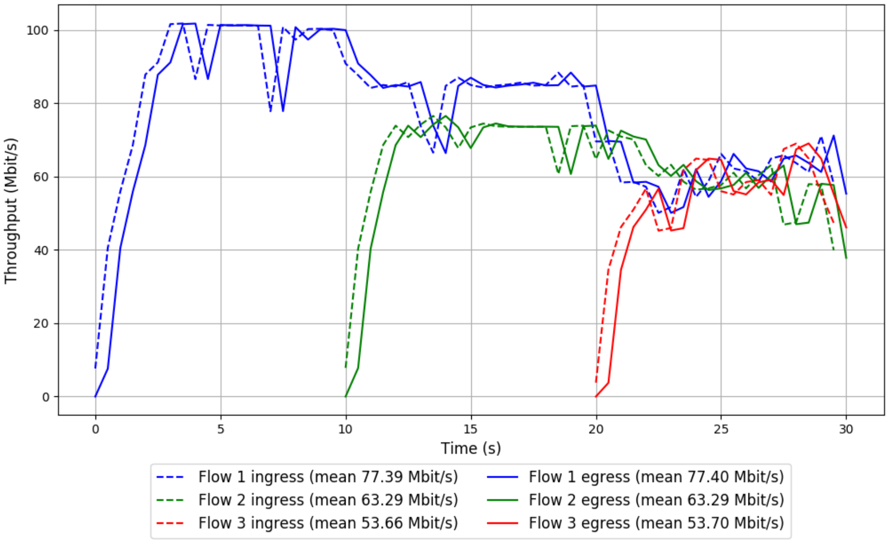


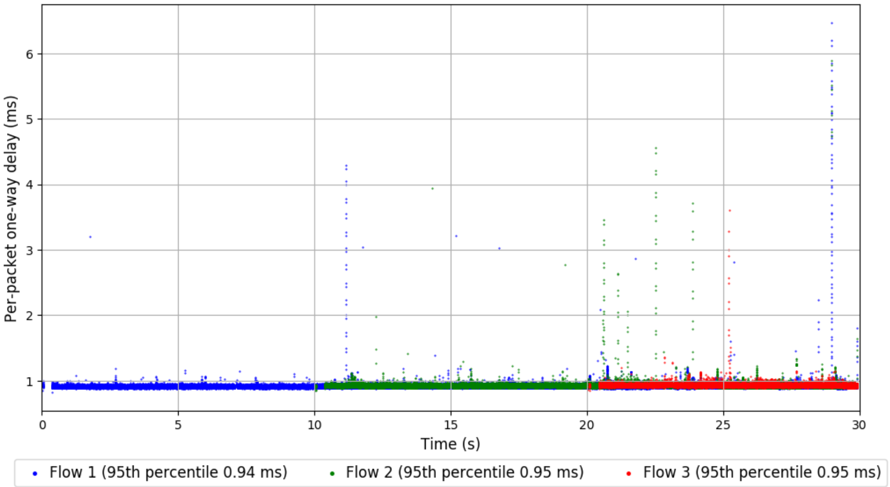
```
Run 7: Statistics of QUIC Cubic

Start at: 2018-06-30 17:05:21
End at: 2018-06-30 17:05:51
Local clock offset: 2.969 ms
Remote clock offset: 3.869 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.24 Mbit/s
95th percentile per-packet one-way delay: 0.945 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 77.40 Mbit/s
95th percentile per-packet one-way delay: 0.938 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 63.29 Mbit/s
95th percentile per-packet one-way delay: 0.948 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 53.70 Mbit/s
95th percentile per-packet one-way delay: 0.954 ms
Loss rate: 0.13%
```

Run 7: Report of QUIC Cubic — Data Link



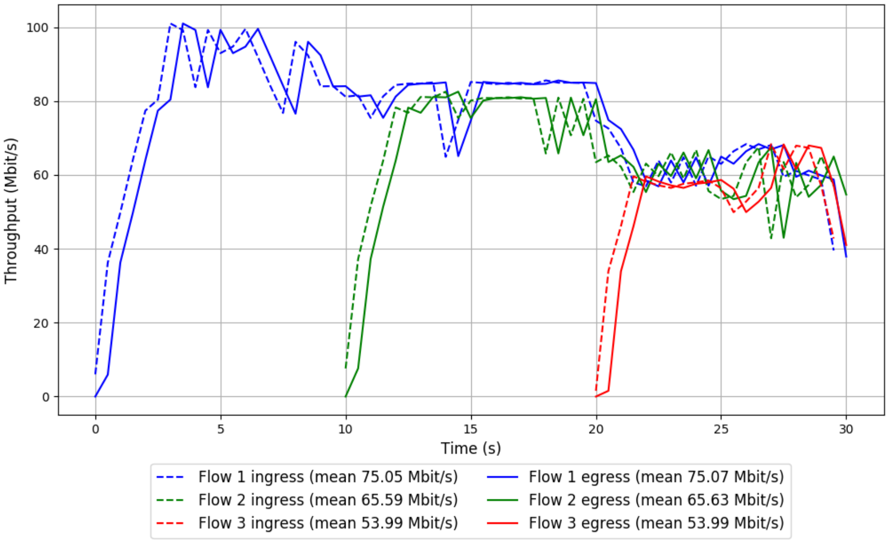


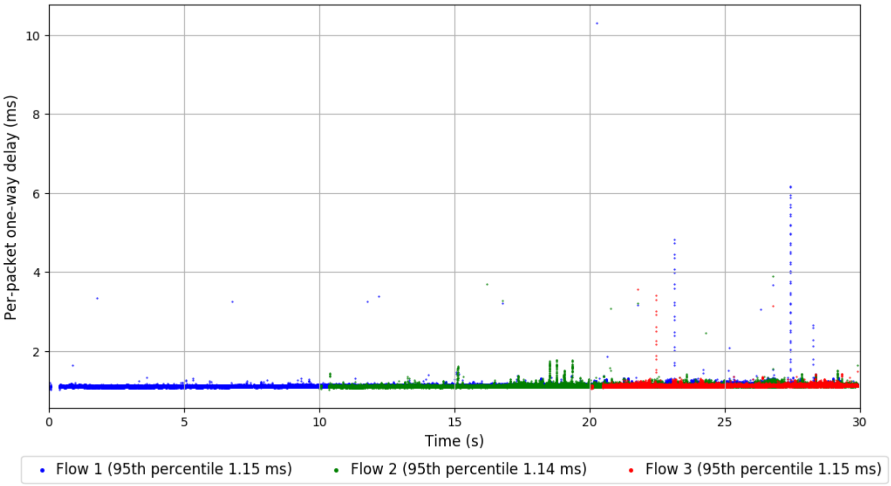
```
Run 8: Statistics of QUIC Cubic

Start at: 2018-06-30 17:31:59
End at: 2018-06-30 17:32:29
Local clock offset: 0.544 ms
Remote clock offset: 3.384 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.54 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 75.07 Mbit/s
95th percentile per-packet one-way delay: 1.150 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 65.63 Mbit/s
95th percentile per-packet one-way delay: 1.142 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 53.99 Mbit/s
95th percentile per-packet one-way delay: 1.150 ms
Loss rate: 0.18%
```

Run 8: Report of QUIC Cubic — Data Link



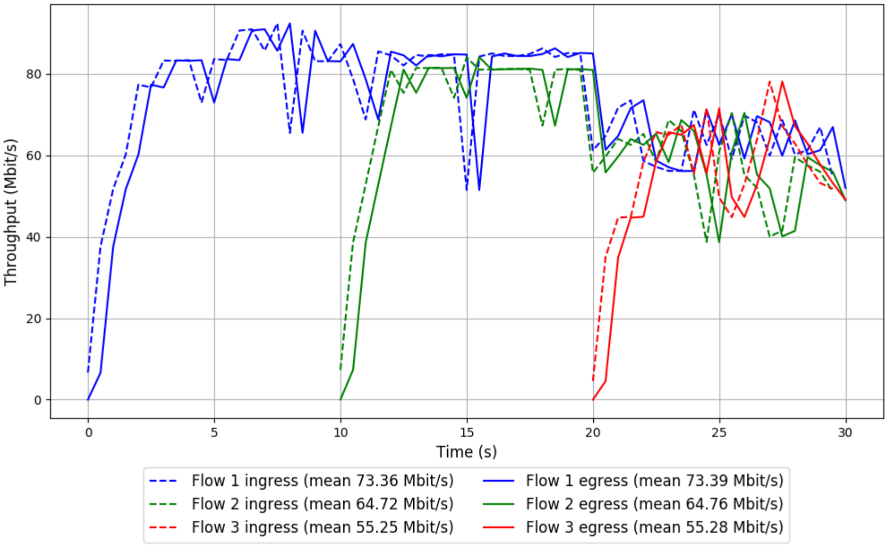


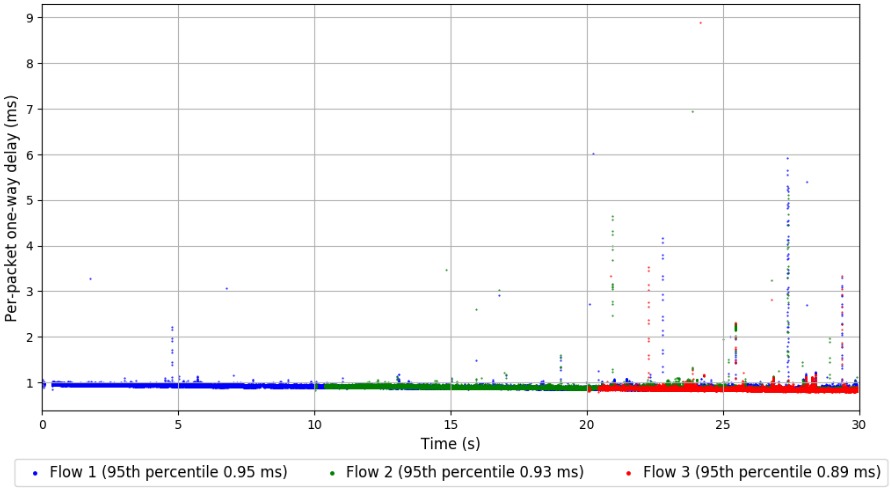
```
Run 9: Statistics of QUIC Cubic

Start at: 2018-06-30 17:58:27
End at: 2018-06-30 17:58:57
Local clock offset: 3.023 ms
Remote clock offset: 0.2 ms

# Below is generated by plot.py at 2018-06-30 20:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.71 Mbit/s
95th percentile per-packet one-way delay: 0.947 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 73.39 Mbit/s
95th percentile per-packet one-way delay: 0.955 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 64.76 Mbit/s
95th percentile per-packet one-way delay: 0.925 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 55.28 Mbit/s
95th percentile per-packet one-way delay: 0.887 ms
Loss rate: 0.25%
```

Run 9: Report of QUIC Cubic — Data Link



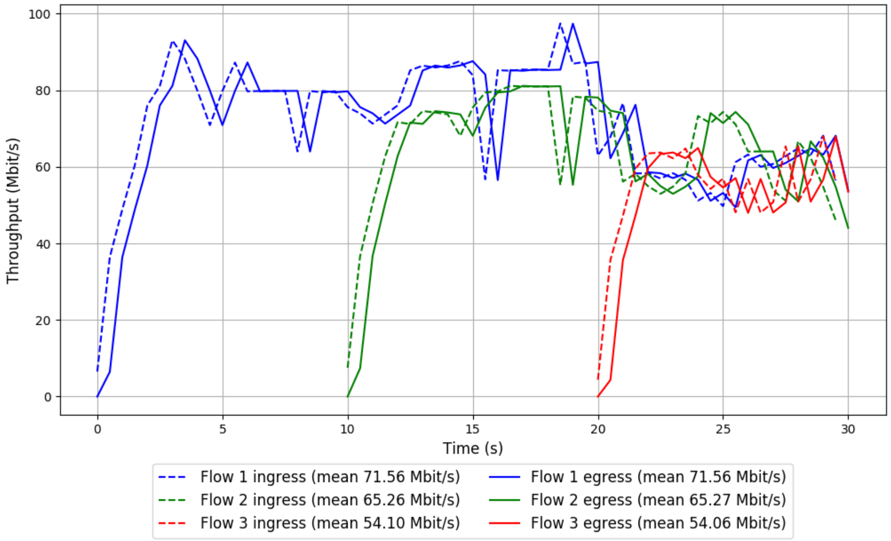


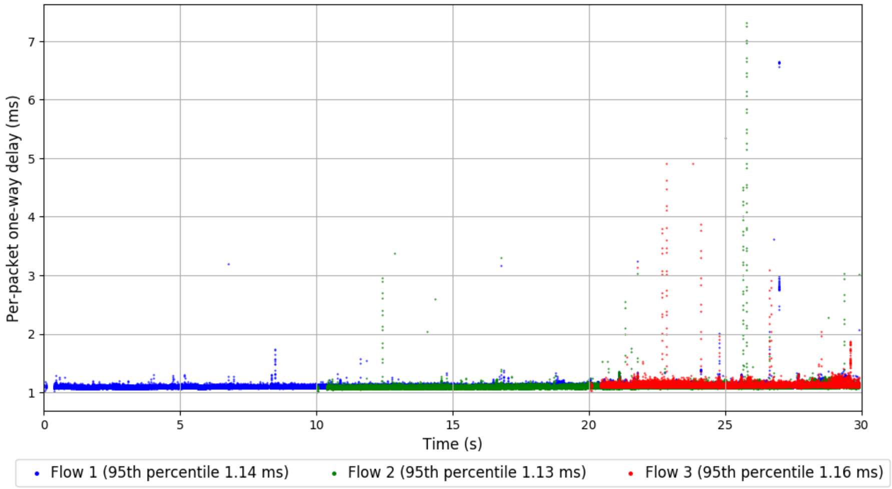
```
Run 10: Statistics of QUIC Cubic

Start at: 2018-06-30 18:25:01
End at: 2018-06-30 18:25:31
Local clock offset: 3.666 ms
Remote clock offset: -0.94 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.83 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 71.56 Mbit/s
95th percentile per-packet one-way delay: 1.135 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 65.27 Mbit/s
95th percentile per-packet one-way delay: 1.126 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 54.06 Mbit/s
95th percentile per-packet one-way delay: 1.160 ms
Loss rate: 0.26%
```

Run 10: Report of QUIC Cubic — Data Link



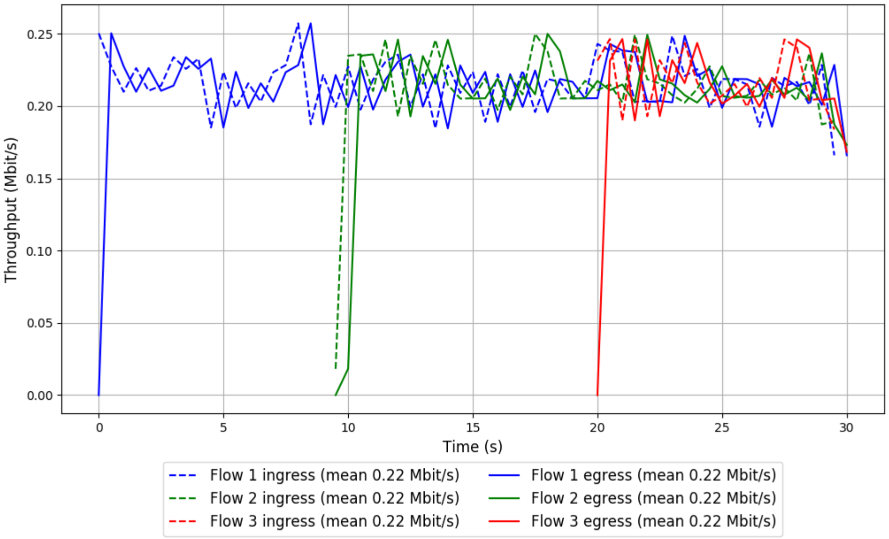


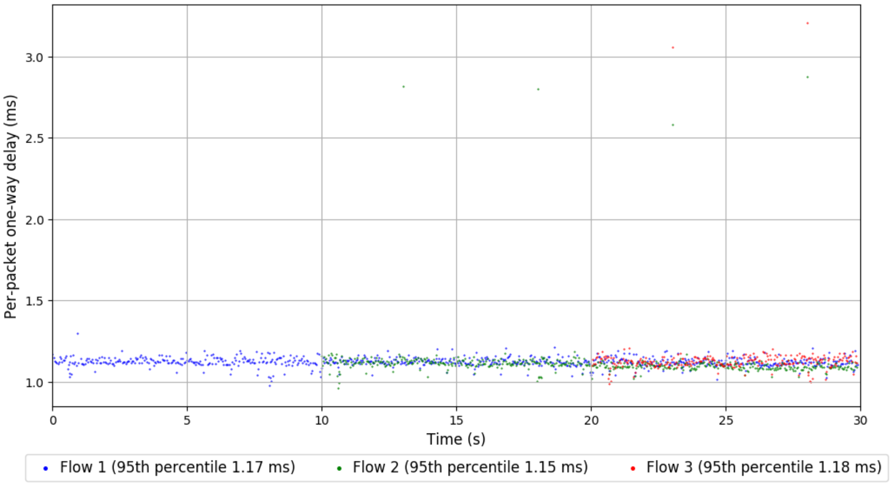
```
Run 1: Statistics of SCReAM

Start at: 2018-06-30 14:10:38
End at: 2018-06-30 14:11:08
Local clock offset: 3.611 ms
Remote clock offset: 3.035 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.168 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.151 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.177 ms
Loss rate: 0.35%
```

Run 1: Report of SCReAM — Data Link



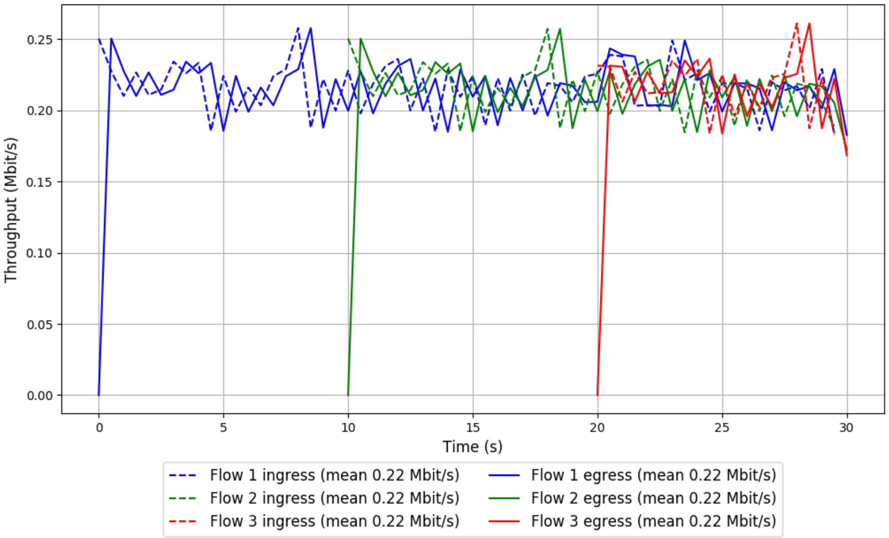


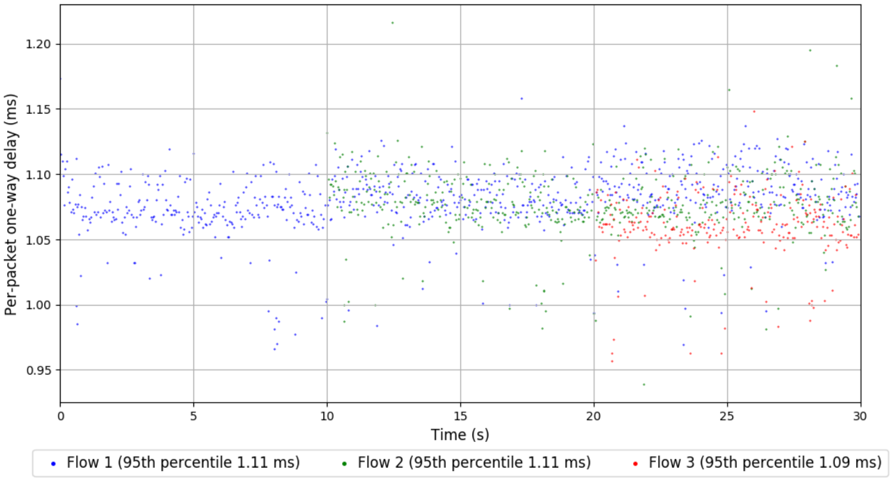
```
Run 2: Statistics of SCReAM

Start at: 2018-06-30 14:37:08
End at: 2018-06-30 14:37:38
Local clock offset: 3.109 ms
Remote clock offset: 2.796 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.112 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.113 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.35%
```

Run 2: Report of SCReAM — Data Link



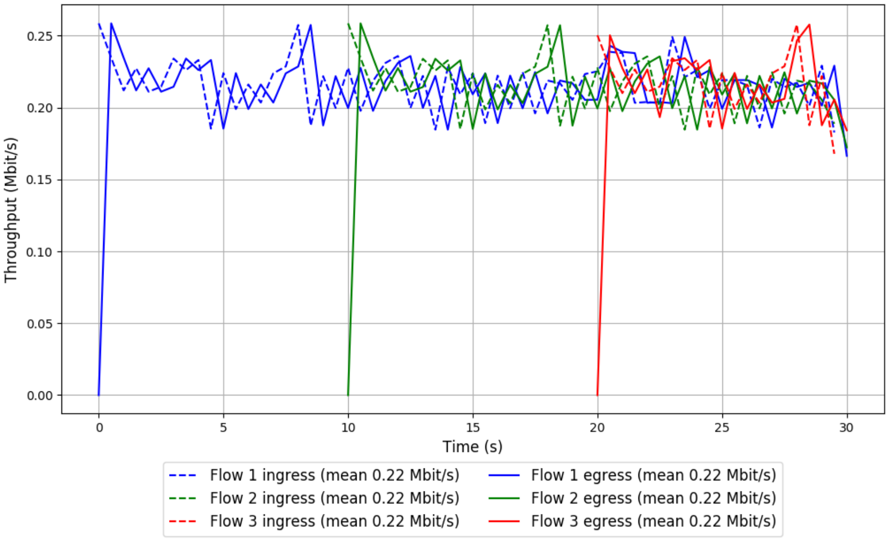


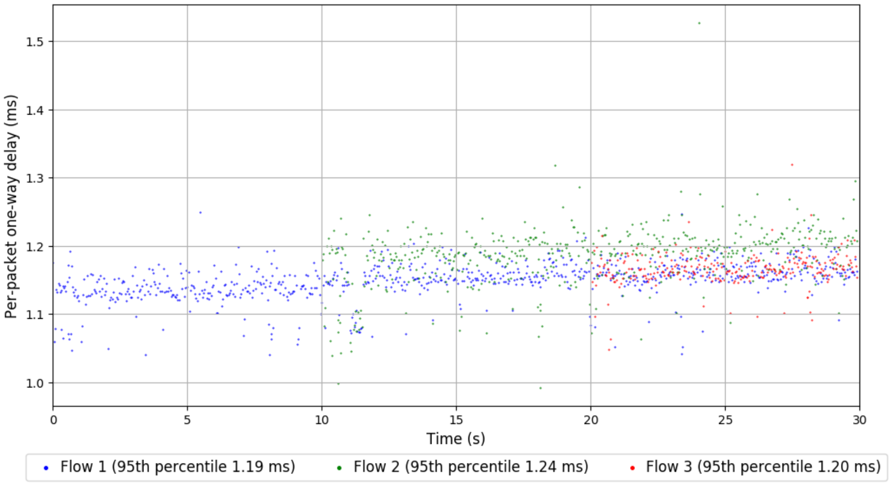
```
Run 3: Statistics of SCReAM

Start at: 2018-06-30 15:03:44
End at: 2018-06-30 15:04:14
Local clock offset: 0.057 ms
Remote clock offset: 3.08 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.218 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.188 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.238 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.197 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link



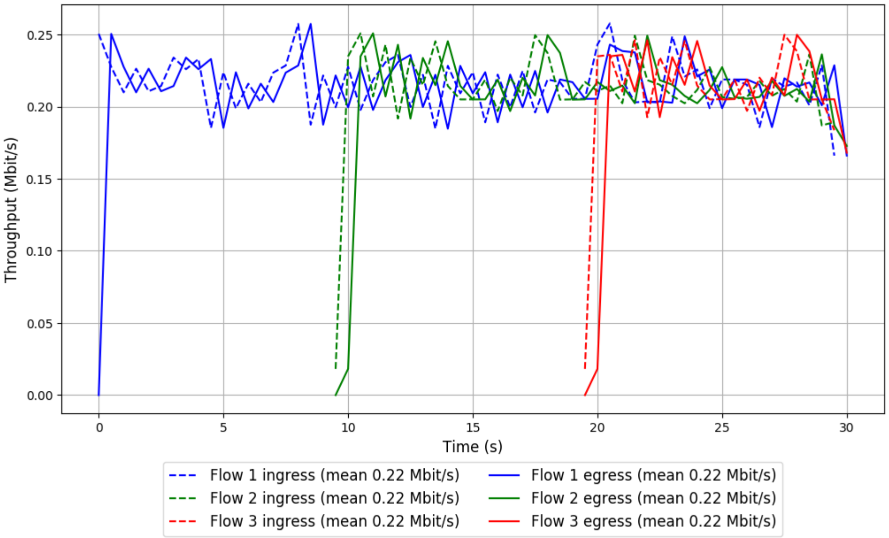


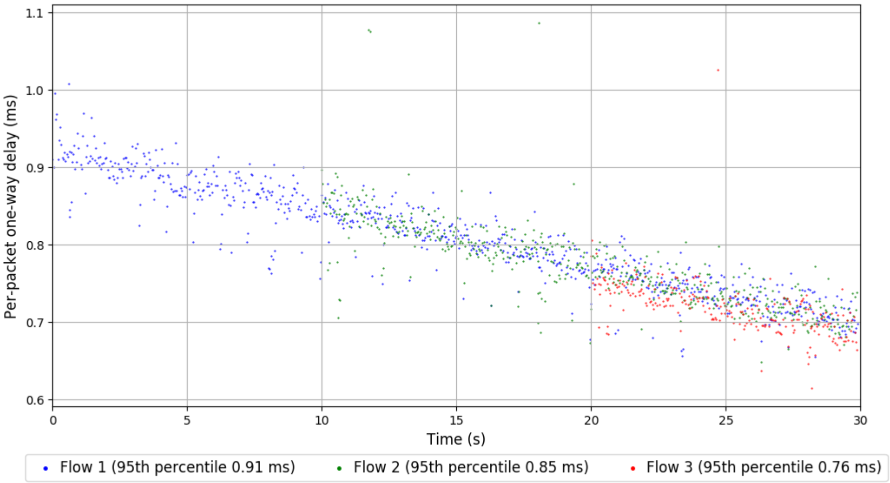
```
Run 4: Statistics of SCReAM

Start at: 2018-06-30 15:30:21
End at: 2018-06-30 15:30:51
Local clock offset: 2.9 ms
Remote clock offset: 2.81 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 0.902 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.912 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.854 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.760 ms
Loss rate: 0.35%
```

Run 4: Report of SCReAM — Data Link



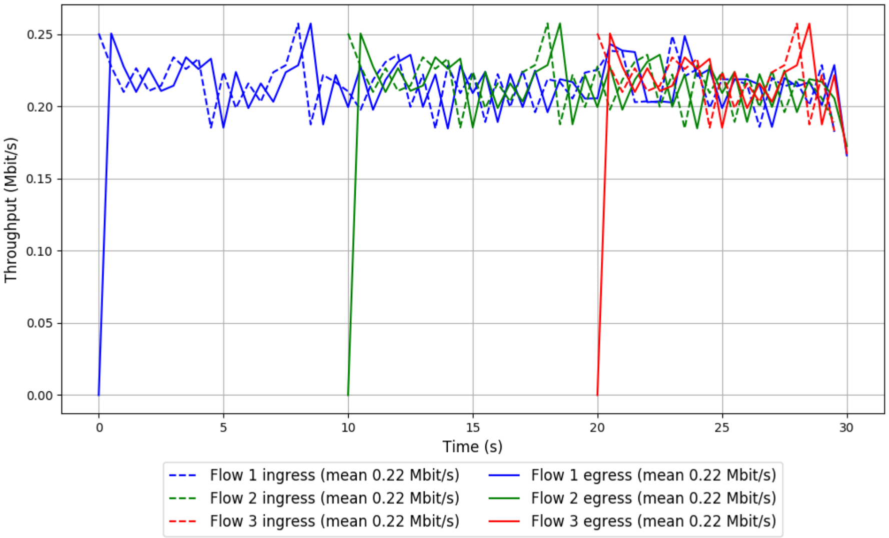


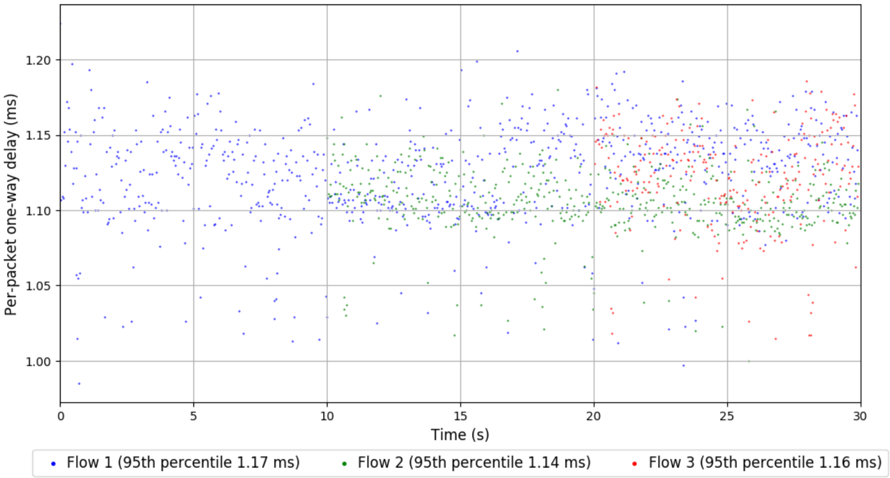
```
Run 5: Statistics of SCReAM

Start at: 2018-06-30 15:56:53
End at: 2018-06-30 15:57:23
Local clock offset: 3.404 ms
Remote clock offset: -0.662 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.166 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.170 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.164 ms
Loss rate: 0.36%
```

Run 5: Report of SCReAM — Data Link



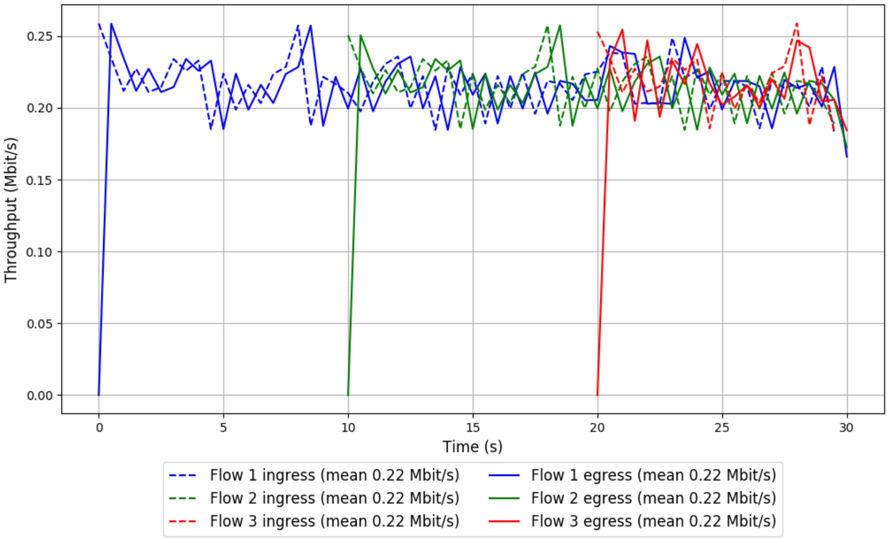


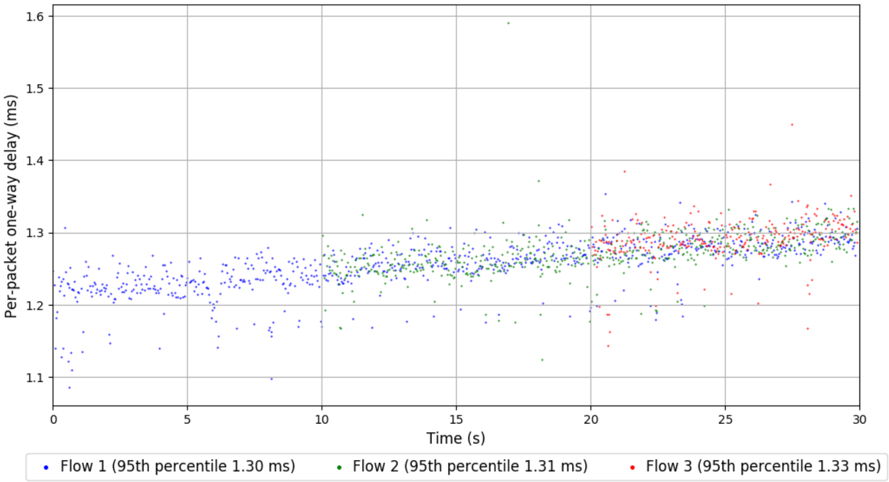
```
Run 6: Statistics of SCReAM

Start at: 2018-06-30 16:23:21
End at: 2018-06-30 16:23:51
Local clock offset: 1.324 ms
Remote clock offset: -0.213 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.314 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.304 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.312 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.327 ms
Loss rate: 0.35%
```

Run 6: Report of SCReAM — Data Link



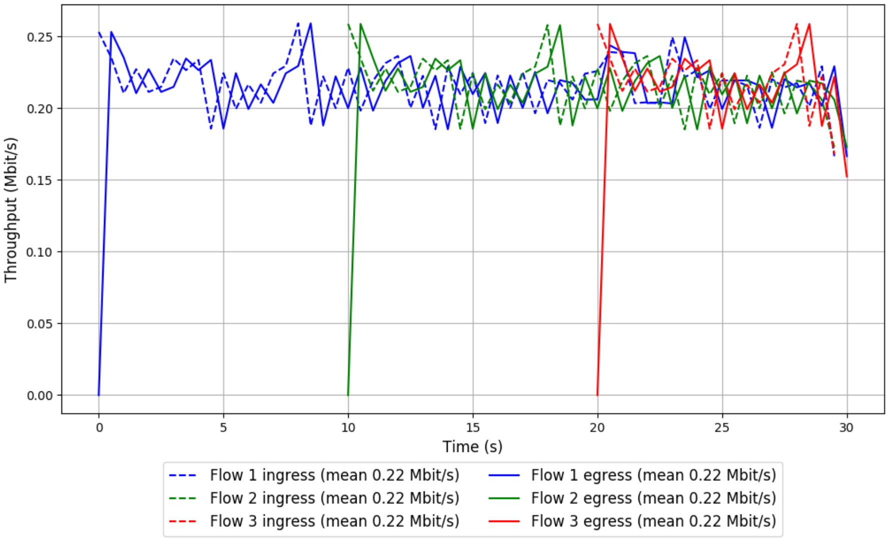


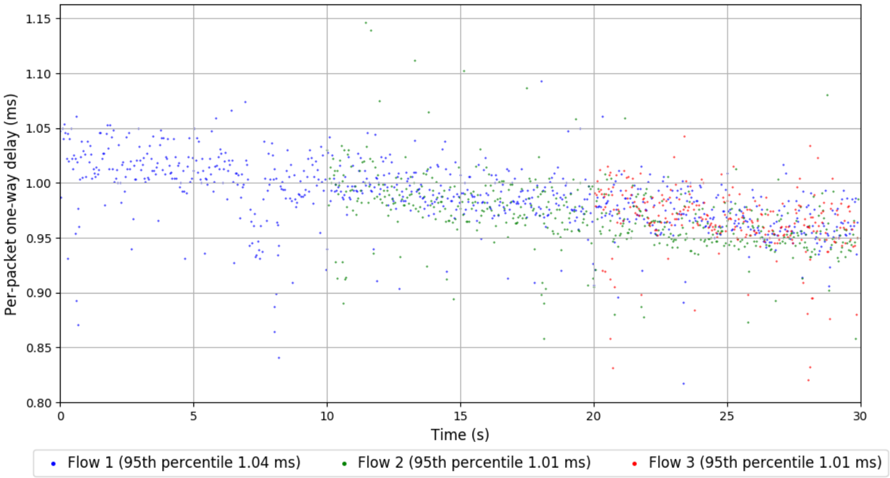
```
Run 7: Statistics of SCReAM

Start at: 2018-06-30 16:49:51
End at: 2018-06-30 16:50:21
Local clock offset: 1.001 ms
Remote clock offset: 2.68 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.015 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.006 ms
Loss rate: 0.35%
```

Run 7: Report of SCReAM — Data Link



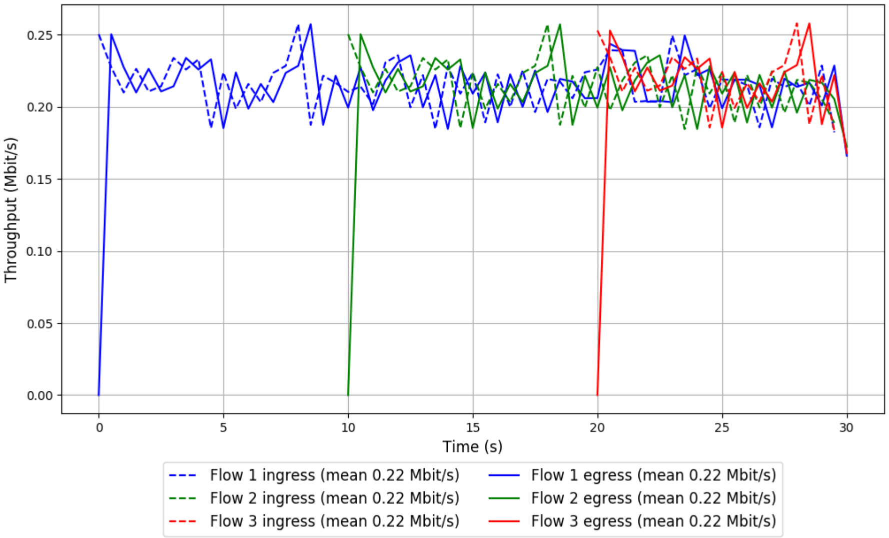


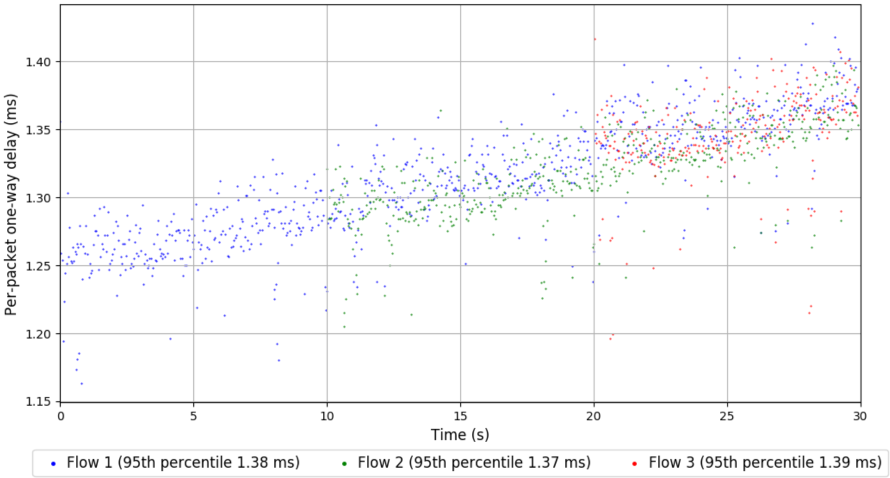
```
Run 8: Statistics of SCReAM

Start at: 2018-06-30 17:16:33
End at: 2018-06-30 17:17:03
Local clock offset: 3.047 ms
Remote clock offset: 3.719 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.377 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.376 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.368 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.388 ms
Loss rate: 0.35%
```

Run 8: Report of SCReAM — Data Link



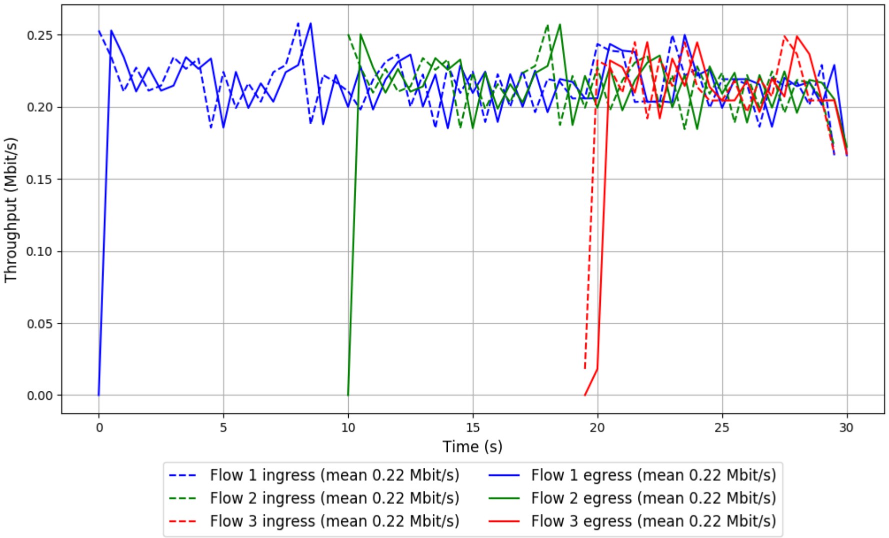


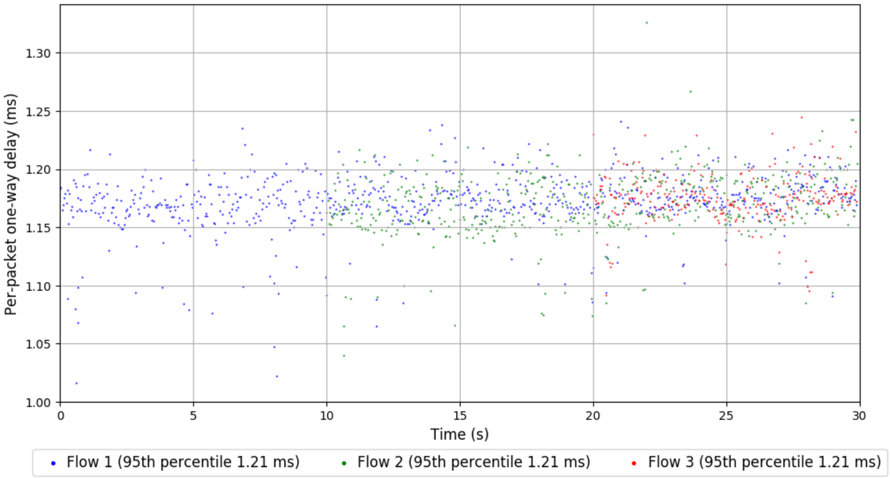
```
Run 9: Statistics of SCReAM

Start at: 2018-06-30 17:43:11
End at: 2018-06-30 17:43:41
Local clock offset: 0.018 ms
Remote clock offset: 3.545 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.206 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.205 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.206 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.206 ms
Loss rate: 0.00%
```

Run 9: Report of SCReAM — Data Link



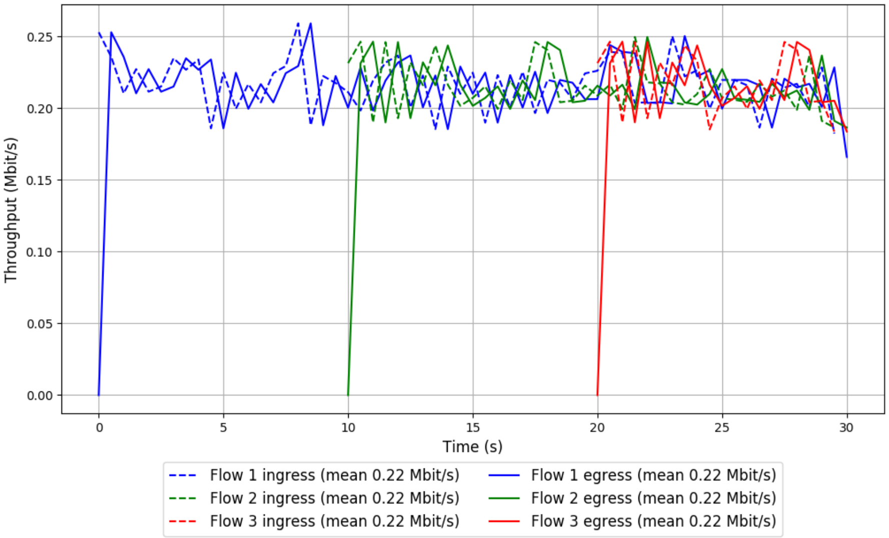


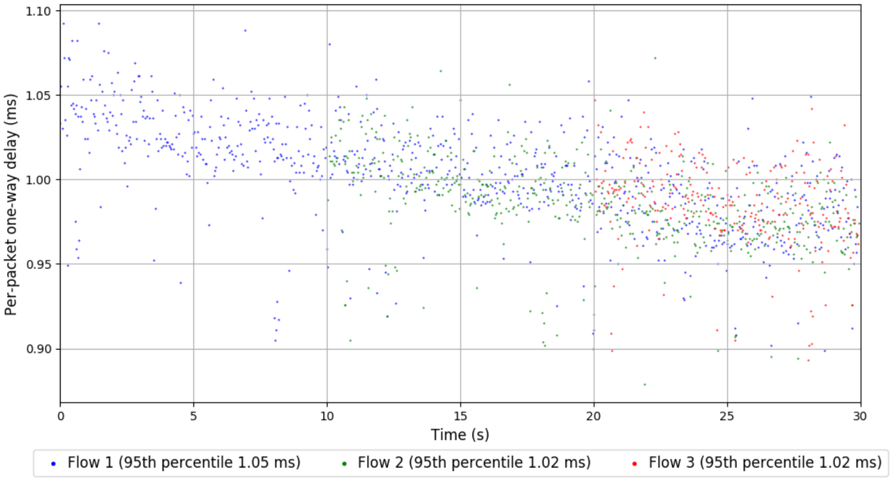
```
Run 10: Statistics of SCReAM

Start at: 2018-06-30 18:09:34
End at: 2018-06-30 18:10:04
Local clock offset: 3.802 ms
Remote clock offset: -0.752 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.041 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.050 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.025 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.022 ms
Loss rate: 0.00%
```

Run 10: Report of SCReAM — Data Link



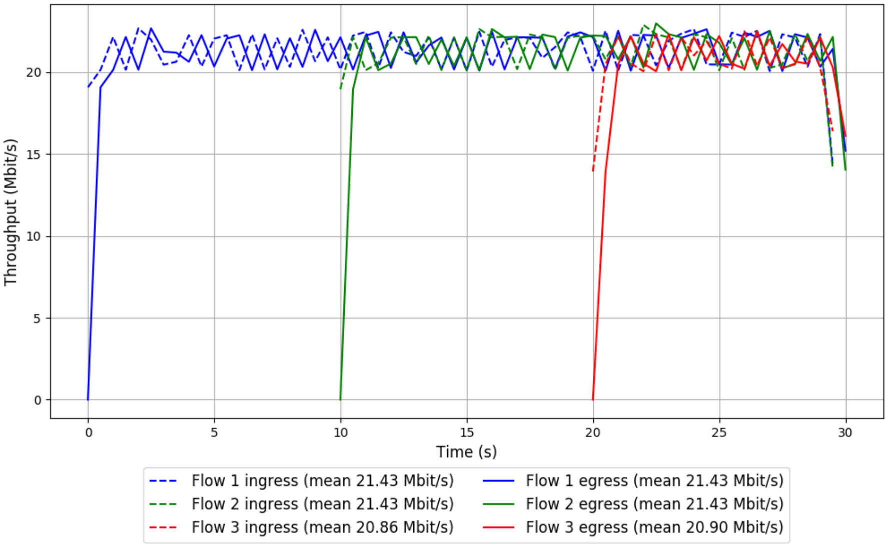


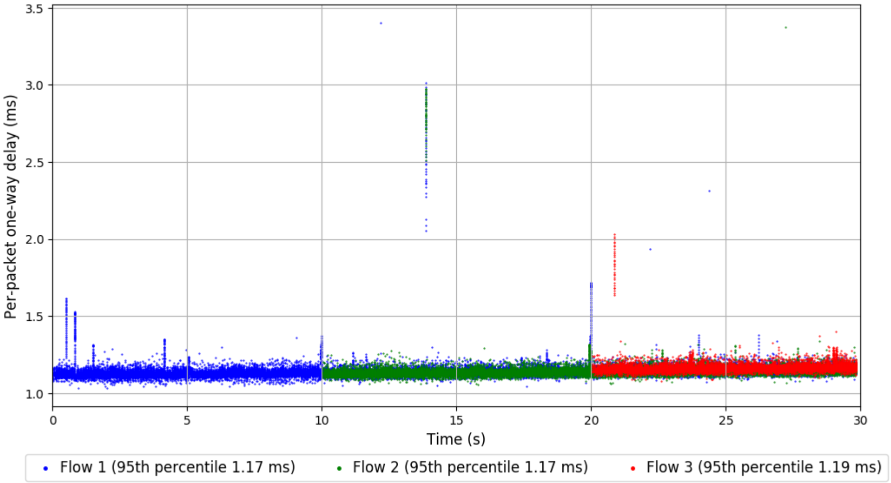
```
Run 1: Statistics of Sprout

Start at: 2018-06-30 14:16:40
End at: 2018-06-30 14:17:10
Local clock offset: 3.61 ms
Remote clock offset: 3.085 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.52 Mbit/s
95th percentile per-packet one-way delay: 1.179 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 21.43 Mbit/s
95th percentile per-packet one-way delay: 1.173 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.43 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.90 Mbit/s
95th percentile per-packet one-way delay: 1.194 ms
Loss rate: 0.07%
```

Run 1: Report of Sprout — Data Link



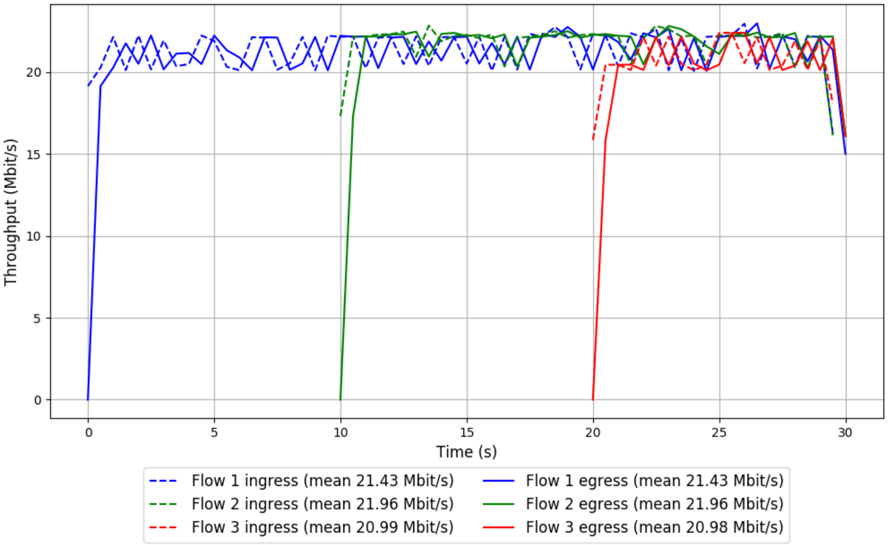


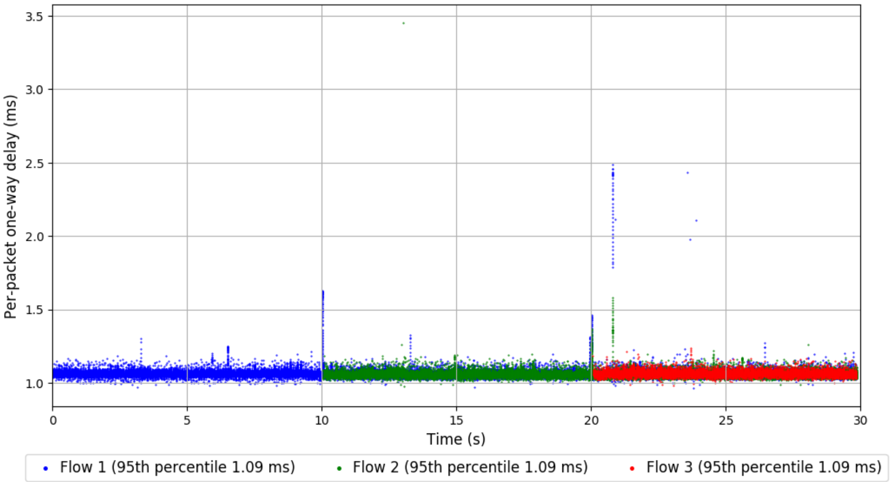
```
Run 2: Statistics of Sprout

Start at: 2018-06-30 14:43:11
End at: 2018-06-30 14:43:41
Local clock offset: 3.197 ms
Remote clock offset: 2.87 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.88 Mbit/s
95th percentile per-packet one-way delay: 1.091 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 21.43 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 21.96 Mbit/s
95th percentile per-packet one-way delay: 1.089 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.98 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.49%
```

Run 2: Report of Sprout — Data Link



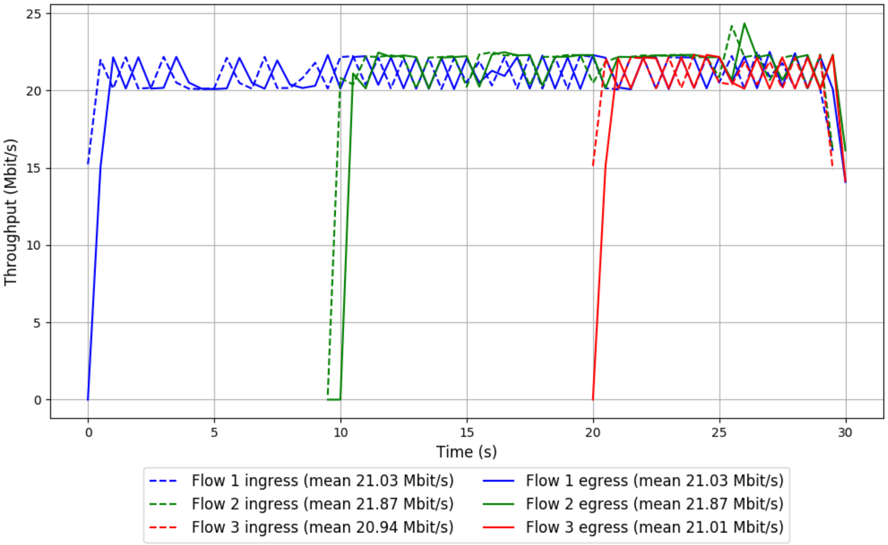


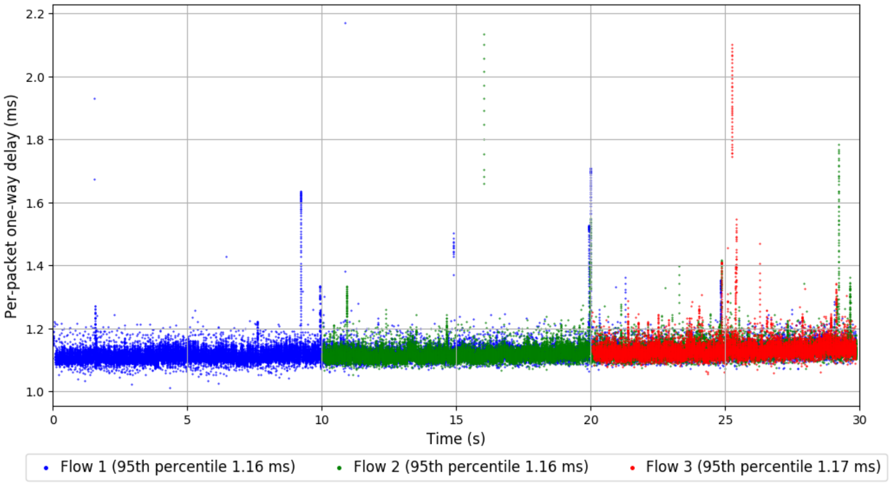
```
Run 3: Statistics of Sprout

Start at: 2018-06-30 15:09:49
End at: 2018-06-30 15:10:19
Local clock offset: -0.298 ms
Remote clock offset: 3.067 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.47 Mbit/s
95th percentile per-packet one-way delay: 1.161 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 21.03 Mbit/s
95th percentile per-packet one-way delay: 1.155 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 21.87 Mbit/s
95th percentile per-packet one-way delay: 1.162 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.01 Mbit/s
95th percentile per-packet one-way delay: 1.173 ms
Loss rate: 0.18%
```

Run 3: Report of Sprout — Data Link



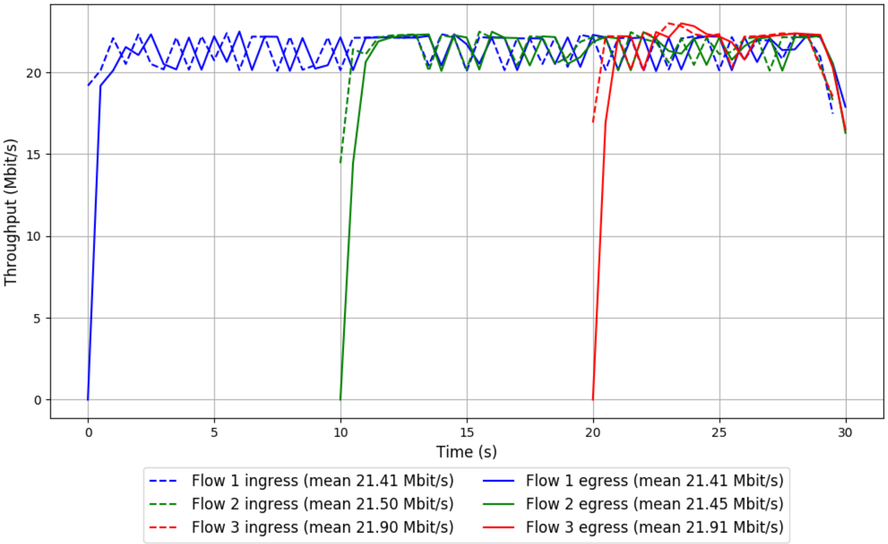


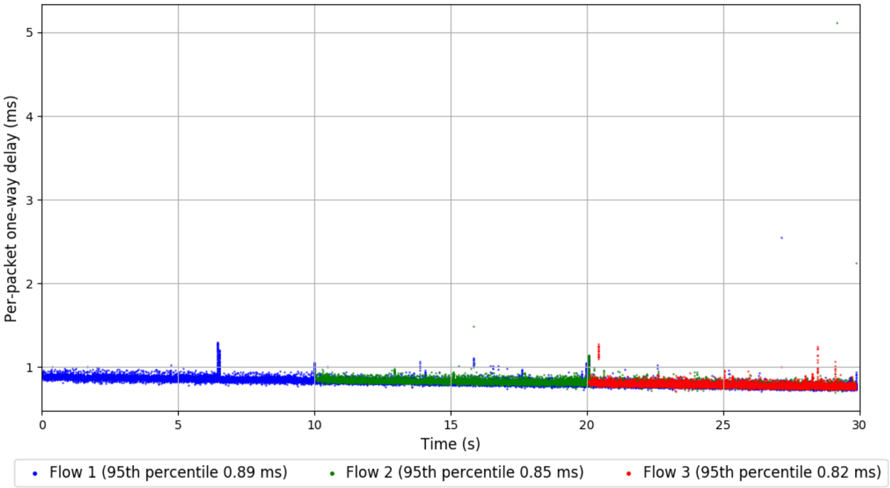
```
Run 4: Statistics of Sprout

Start at: 2018-06-30 15:36:22
End at: 2018-06-30 15:36:52
Local clock offset: 3.377 ms
Remote clock offset: 1.17 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.83 Mbit/s
95th percentile per-packet one-way delay: 0.875 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 21.41 Mbit/s
95th percentile per-packet one-way delay: 0.885 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.45 Mbit/s
95th percentile per-packet one-way delay: 0.855 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 21.91 Mbit/s
95th percentile per-packet one-way delay: 0.822 ms
Loss rate: 0.47%
```

Run 4: Report of Sprout — Data Link



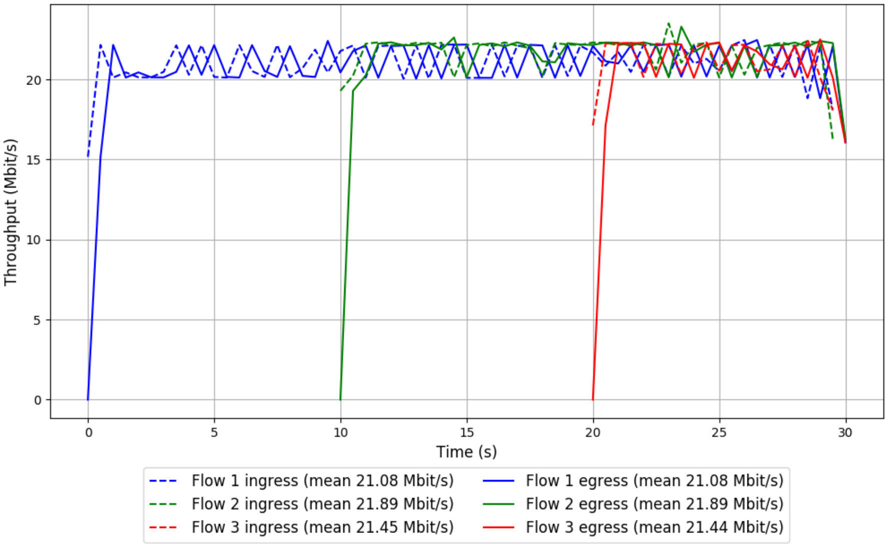


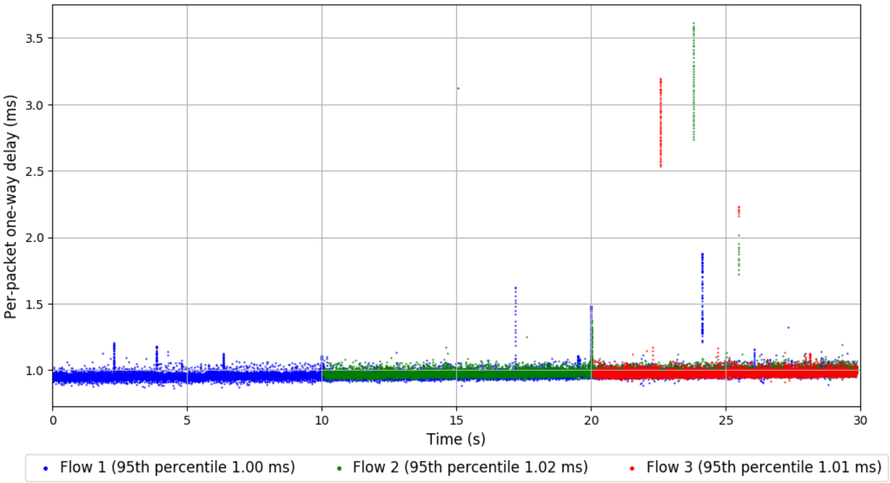
```
Run 5: Statistics of Sprout

Start at: 2018-06-30 16:02:56
End at: 2018-06-30 16:03:26
Local clock offset: 3.25 ms
Remote clock offset: -0.891 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.64 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 21.08 Mbit/s
95th percentile per-packet one-way delay: 1.002 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 21.89 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.44 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.48%
```

Run 5: Report of Sprout — Data Link



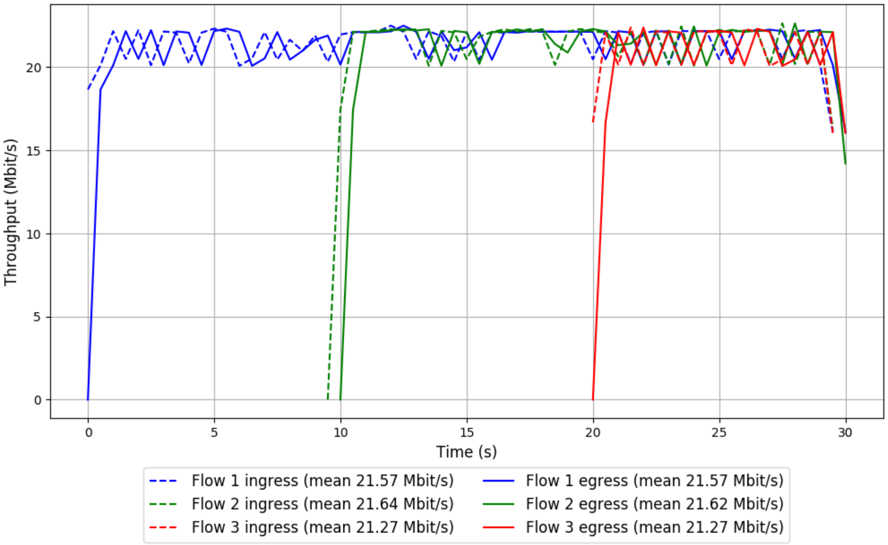


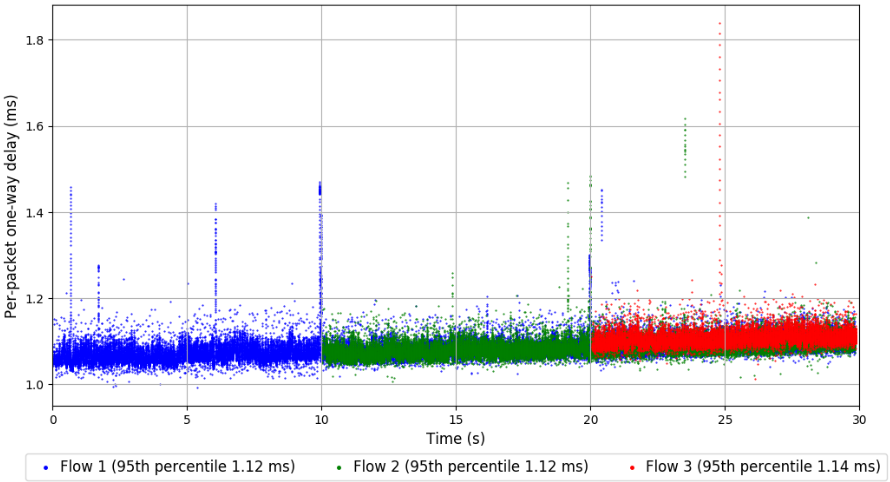
```
Run 6: Statistics of Sprout

Start at: 2018-06-30 16:29:21
End at: 2018-06-30 16:29:51
Local clock offset: 0.519 ms
Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.92 Mbit/s
95th percentile per-packet one-way delay: 1.124 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 21.57 Mbit/s
95th percentile per-packet one-way delay: 1.117 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.62 Mbit/s
95th percentile per-packet one-way delay: 1.119 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 21.27 Mbit/s
95th percentile per-packet one-way delay: 1.136 ms
Loss rate: 0.00%
```

Run 6: Report of Sprout — Data Link



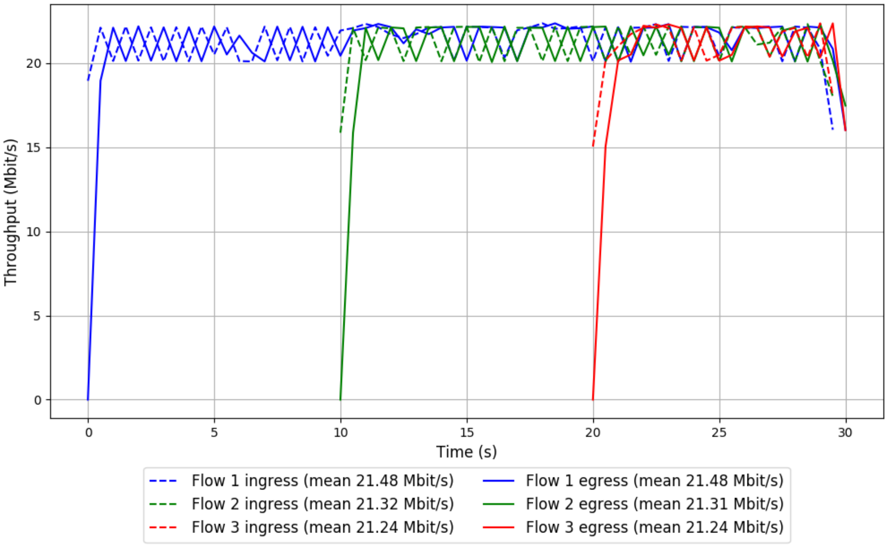


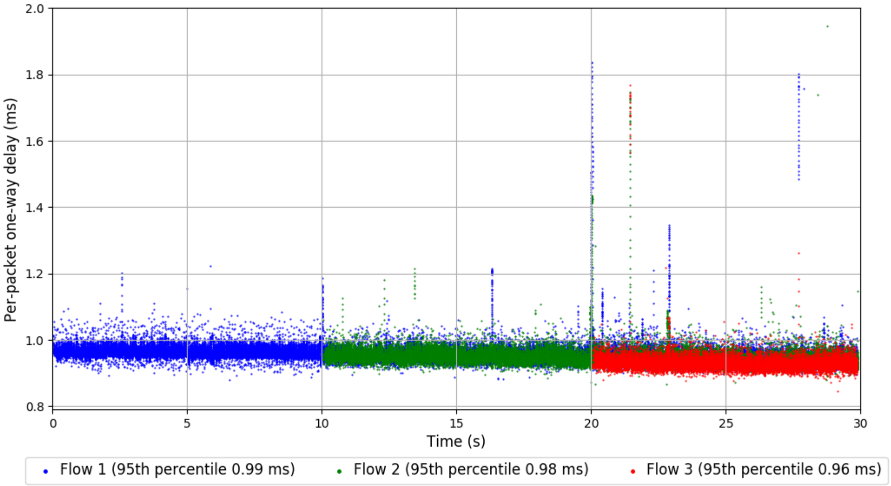
```
Run 7: Statistics of Sprout

Start at: 2018-06-30 16:55:54
End at: 2018-06-30 16:56:24
Local clock offset: 2.197 ms
Remote clock offset: 3.299 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.60 Mbit/s
95th percentile per-packet one-way delay: 0.984 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 21.48 Mbit/s
95th percentile per-packet one-way delay: 0.989 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.31 Mbit/s
95th percentile per-packet one-way delay: 0.979 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 21.24 Mbit/s
95th percentile per-packet one-way delay: 0.960 ms
Loss rate: 0.48%
```

Run 7: Report of Sprout — Data Link



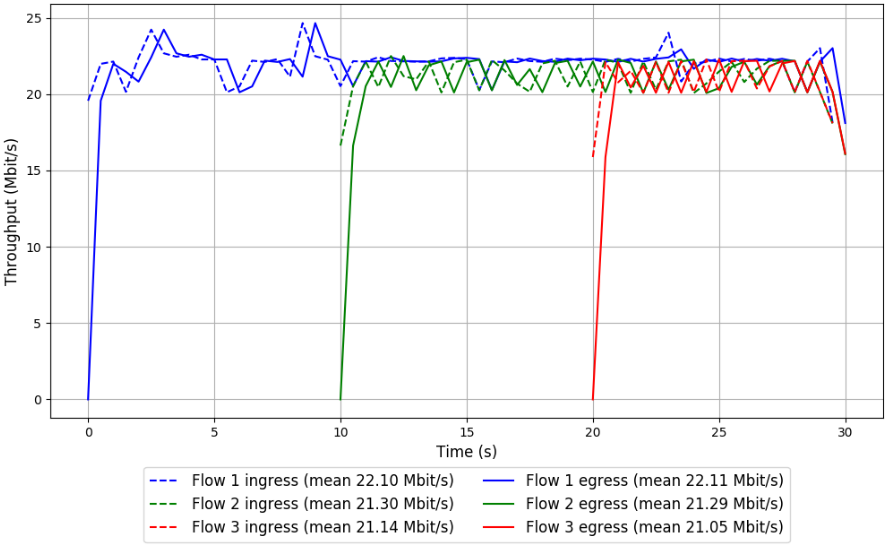


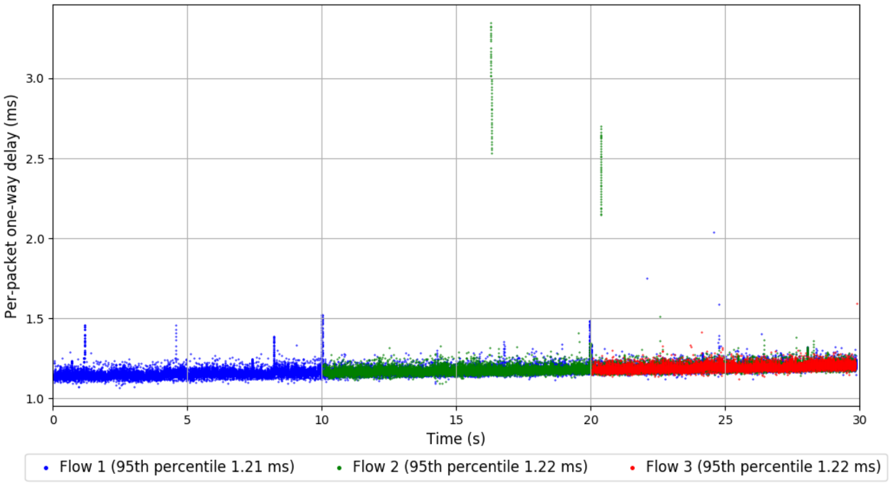
```
Run 8: Statistics of Sprout

Start at: 2018-06-30 17:22:35
End at: 2018-06-30 17:23:05
Local clock offset: 1.633 ms
Remote clock offset: 3.474 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.15 Mbit/s
95th percentile per-packet one-way delay: 1.218 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 22.11 Mbit/s
95th percentile per-packet one-way delay: 1.214 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.29 Mbit/s
95th percentile per-packet one-way delay: 1.218 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 21.05 Mbit/s
95th percentile per-packet one-way delay: 1.224 ms
Loss rate: 0.48%
```

Run 8: Report of Sprout — Data Link



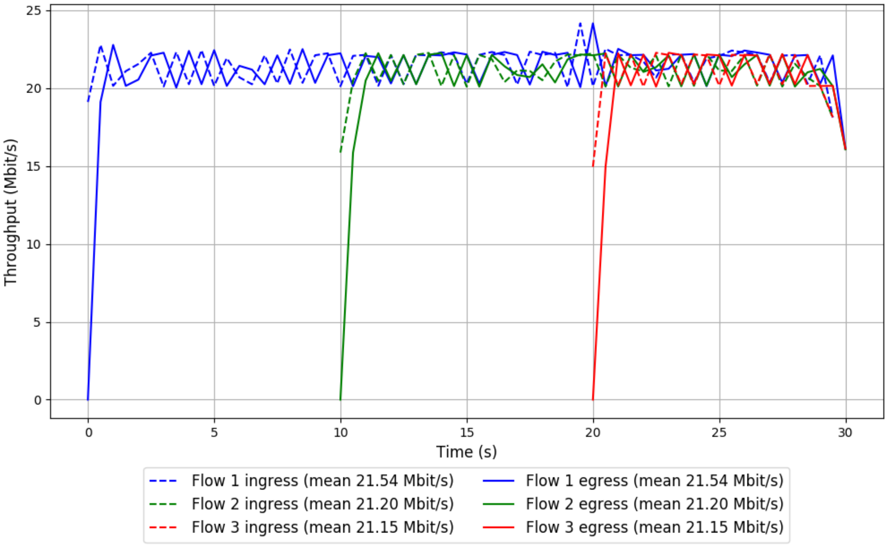


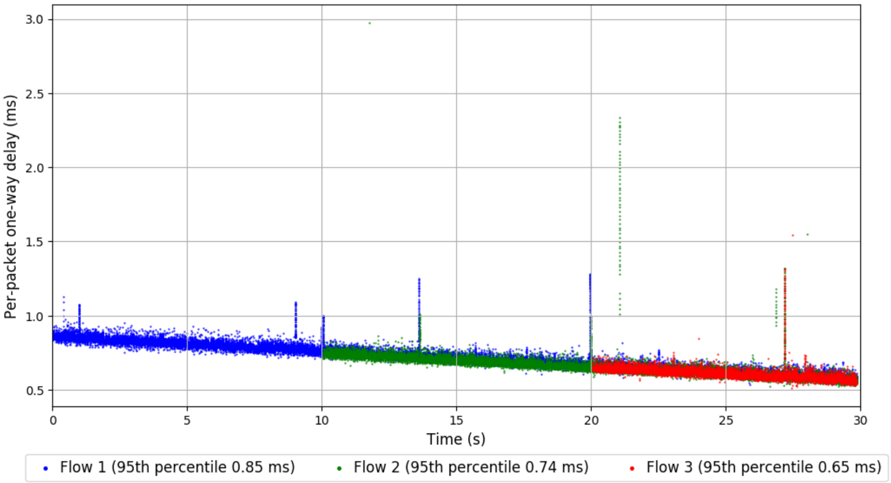
```
Run 9: Statistics of Sprout

Start at: 2018-06-30 17:49:13
End at: 2018-06-30 17:49:43
Local clock offset: 1.251 ms
Remote clock offset: 2.0 ms

# Below is generated by plot.py at 2018-06-30 20:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.55 Mbit/s
95th percentile per-packet one-way delay: 0.831 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 21.54 Mbit/s
95th percentile per-packet one-way delay: 0.847 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 21.20 Mbit/s
95th percentile per-packet one-way delay: 0.740 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 21.15 Mbit/s
95th percentile per-packet one-way delay: 0.654 ms
Loss rate: 0.48%
```

Run 9: Report of Sprout — Data Link



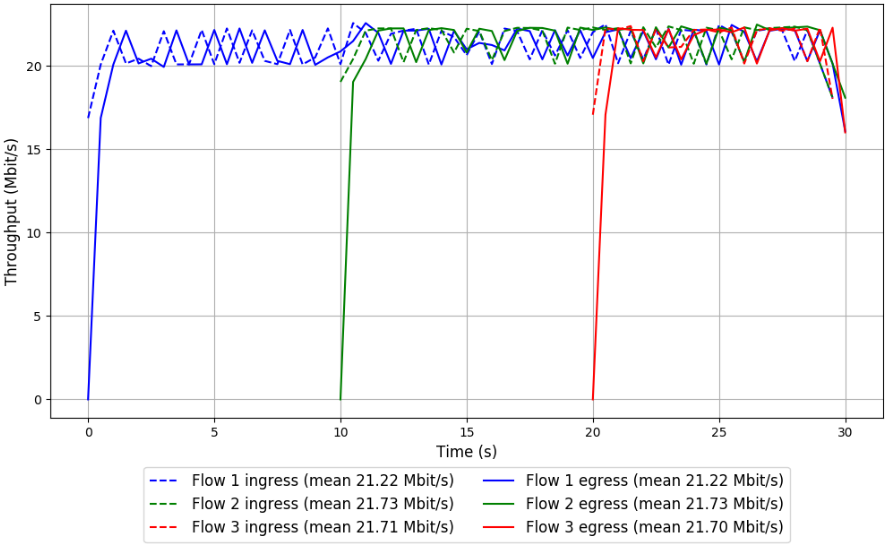


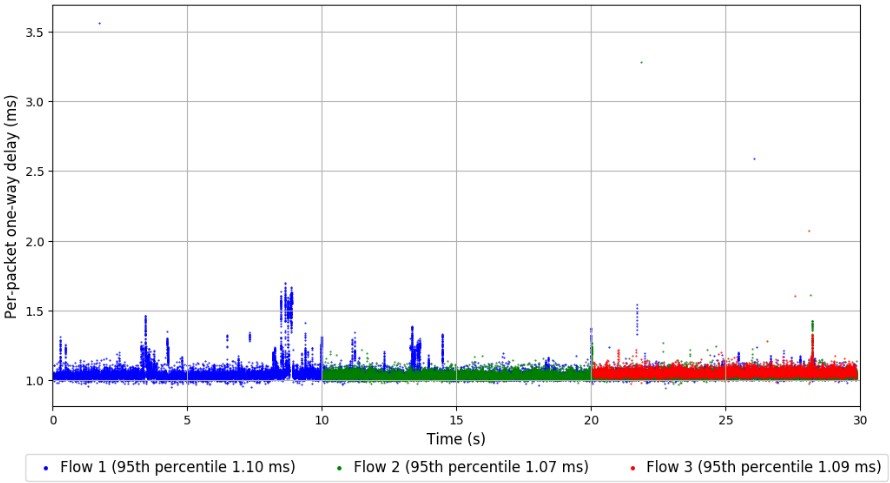
```
Run 10: Statistics of Sprout

Start at: 2018-06-30 18:15:36
End at: 2018-06-30 18:16:06
Local clock offset: 4.123 ms
Remote clock offset: -0.997 ms

# Below is generated by plot.py at 2018-06-30 20:17:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.76 Mbit/s
95th percentile per-packet one-way delay: 1.084 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 21.22 Mbit/s
95th percentile per-packet one-way delay: 1.097 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 21.73 Mbit/s
95th percentile per-packet one-way delay: 1.071 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.70 Mbit/s
95th percentile per-packet one-way delay: 1.089 ms
Loss rate: 0.47%
```

Run 10: Report of Sprout — Data Link



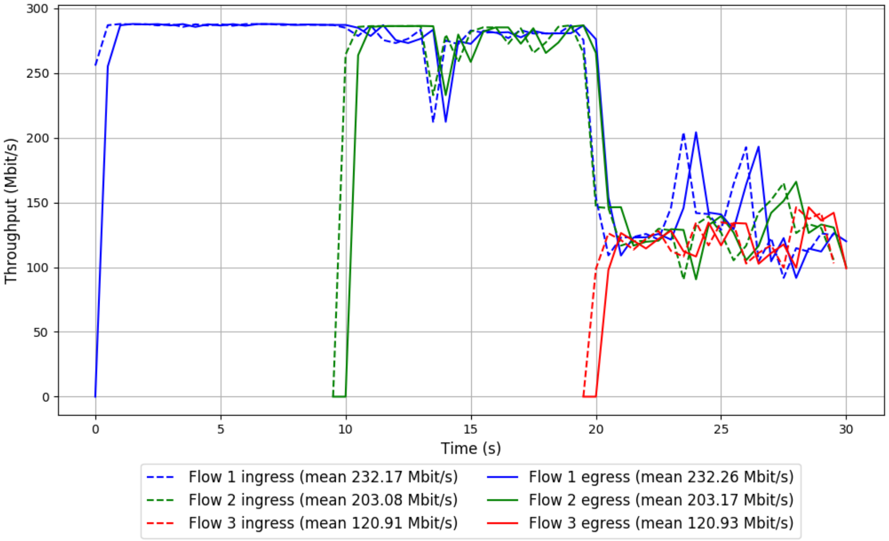


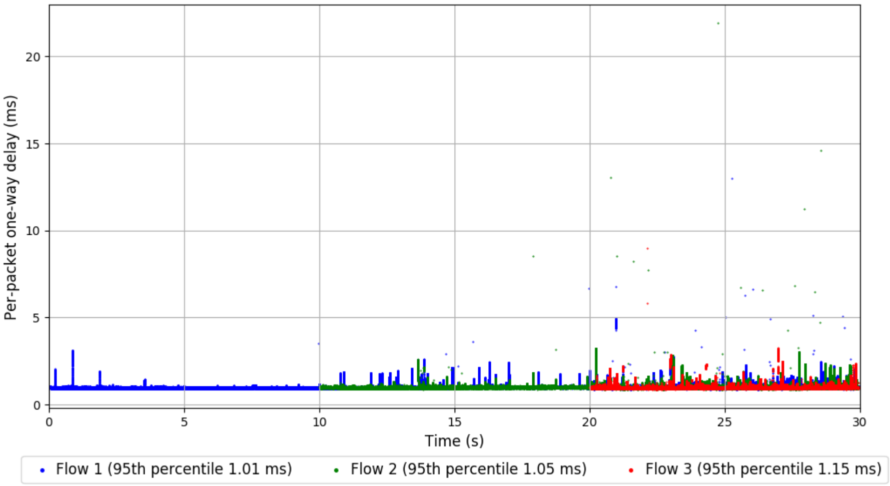
```
Run 1: Statistics of TaoVA-100x

Start at: 2018-06-30 14:33:46
End at: 2018-06-30 14:34:16
Local clock offset: 3.11 ms
Remote clock offset: 2.771 ms

# Below is generated by plot.py at 2018-06-30 20:25:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 407.78 Mbit/s
95th percentile per-packet one-way delay: 1.043 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 232.26 Mbit/s
95th percentile per-packet one-way delay: 1.012 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 203.17 Mbit/s
95th percentile per-packet one-way delay: 1.054 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 120.93 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 0.20%
```

Run 1: Report of TaoVA-100x — Data Link



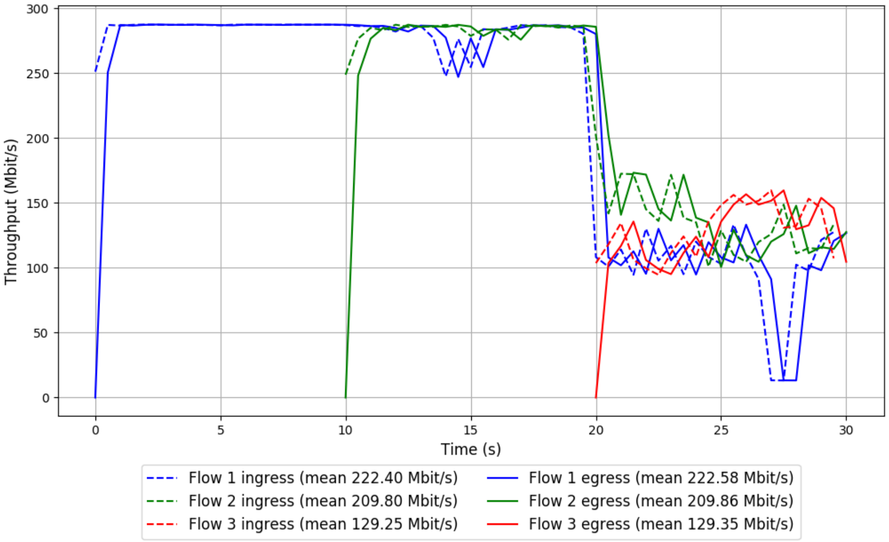


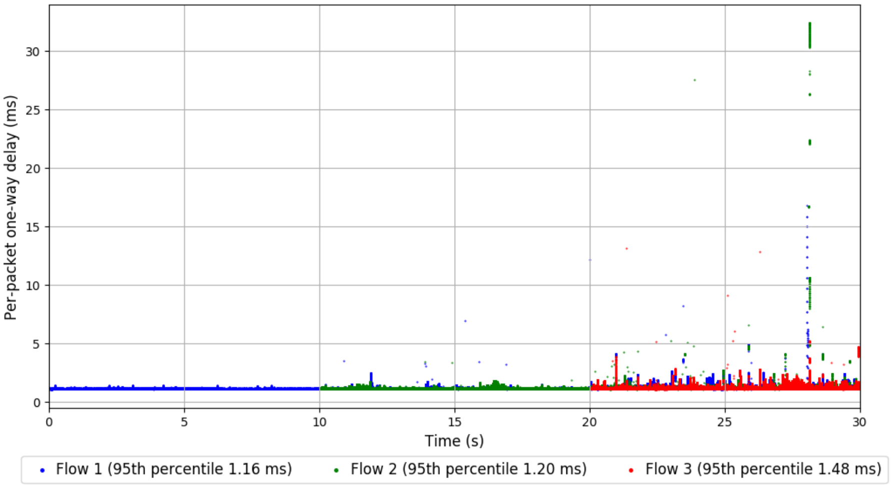
```
Run 2: Statistics of TaoVA-100x

Start at: 2018-06-30 15:00:24
End at: 2018-06-30 15:00:54
Local clock offset: 0.332 ms
Remote clock offset: 3.015 ms

# Below is generated by plot.py at 2018-06-30 20:25:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 405.09 Mbit/s
95th percentile per-packet one-way delay: 1.215 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 222.58 Mbit/s
95th percentile per-packet one-way delay: 1.163 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 209.86 Mbit/s
95th percentile per-packet one-way delay: 1.203 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 129.35 Mbit/s
95th percentile per-packet one-way delay: 1.481 ms
Loss rate: 0.10%
```

Run 2: Report of TaoVA-100x — Data Link



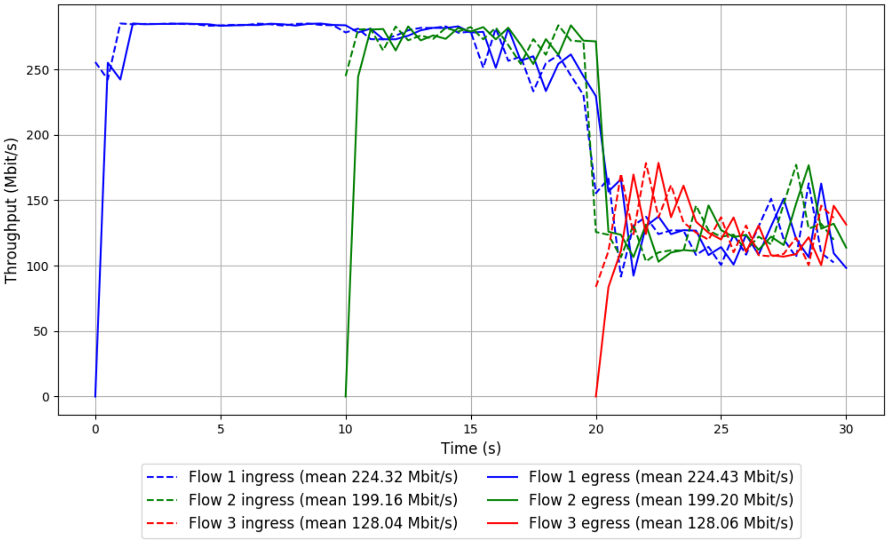


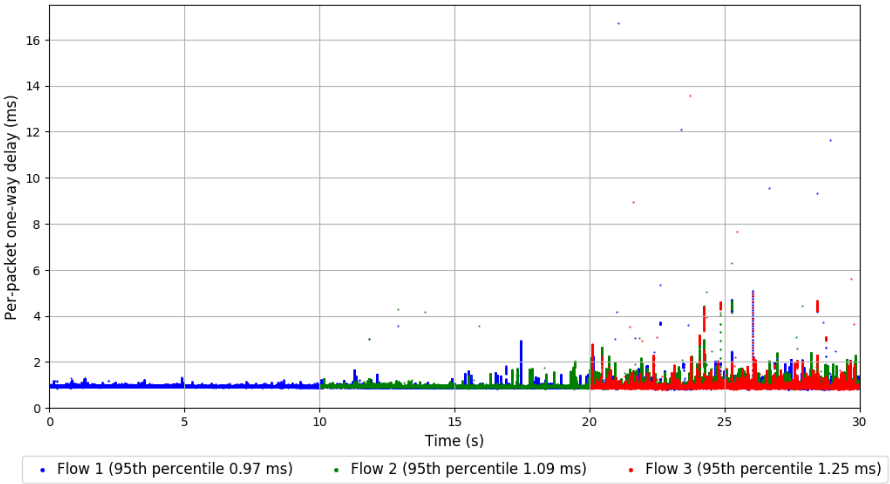
```
Run 3: Statistics of TaoVA-100x

Start at: 2018-06-30 15:27:01
End at: 2018-06-30 15:27:31
Local clock offset: 2.593 ms
Remote clock offset: 3.393 ms

# Below is generated by plot.py at 2018-06-30 20:25:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.51 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 224.43 Mbit/s
95th percentile per-packet one-way delay: 0.967 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 199.20 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 128.06 Mbit/s
95th percentile per-packet one-way delay: 1.250 ms
Loss rate: 0.20%
```

Run 3: Report of TaoVA-100x — Data Link



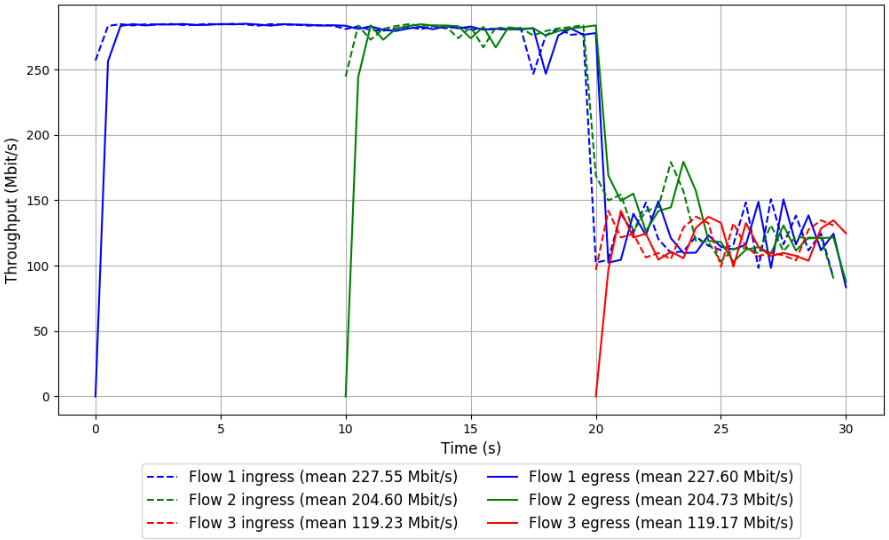


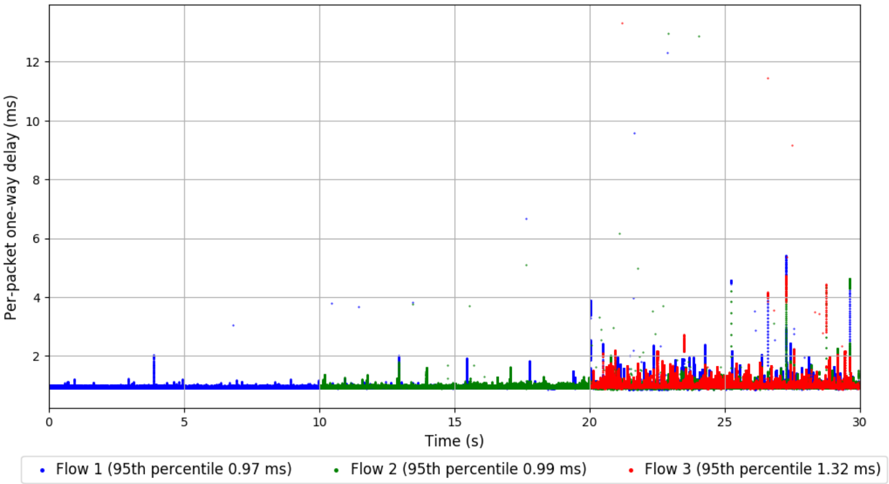
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-06-30 15:53:33
End at: 2018-06-30 15:54:03
Local clock offset: 3.38 ms
Remote clock offset: -0.556 ms

# Below is generated by plot.py at 2018-06-30 20:25:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 403.37 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 227.60 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 204.73 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 119.17 Mbit/s
95th percentile per-packet one-way delay: 1.319 ms
Loss rate: 0.26%
```

Run 4: Report of TaoVA-100x — Data Link



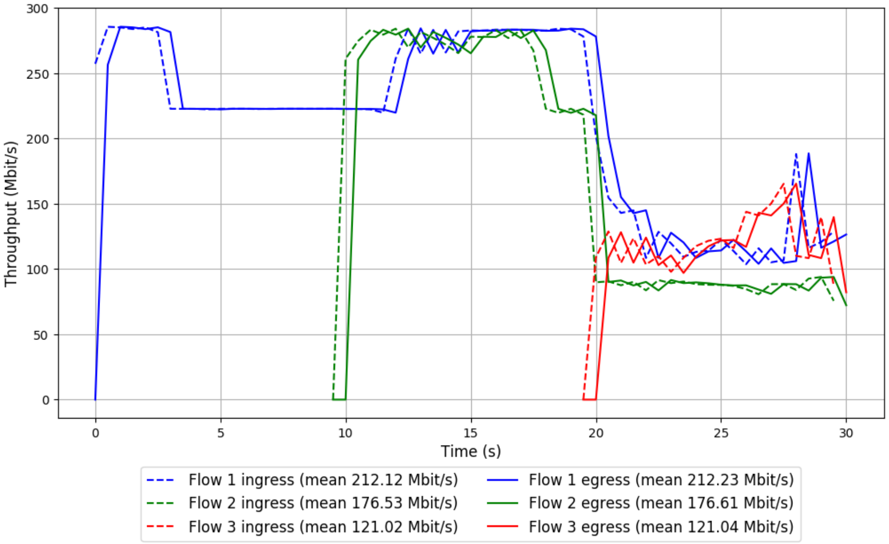


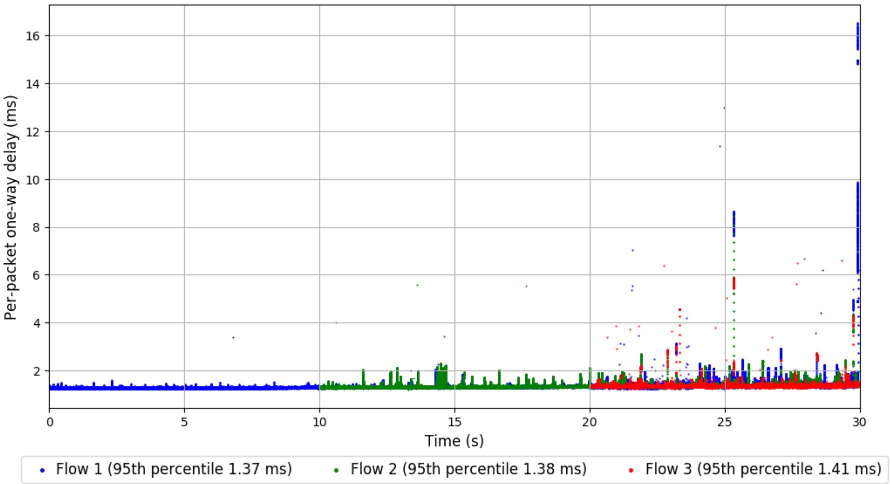
```
Run 5: Statistics of TaoVA-100x

Start at: 2018-06-30 16:20:02
End at: 2018-06-30 16:20:32
Local clock offset: 2.014 ms
Remote clock offset: -0.296 ms

# Below is generated by plot.py at 2018-06-30 20:25:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 370.08 Mbit/s
95th percentile per-packet one-way delay: 1.378 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 212.23 Mbit/s
95th percentile per-packet one-way delay: 1.367 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 176.61 Mbit/s
95th percentile per-packet one-way delay: 1.380 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 121.04 Mbit/s
95th percentile per-packet one-way delay: 1.408 ms
Loss rate: 0.21%
```

Run 5: Report of TaoVA-100x — Data Link



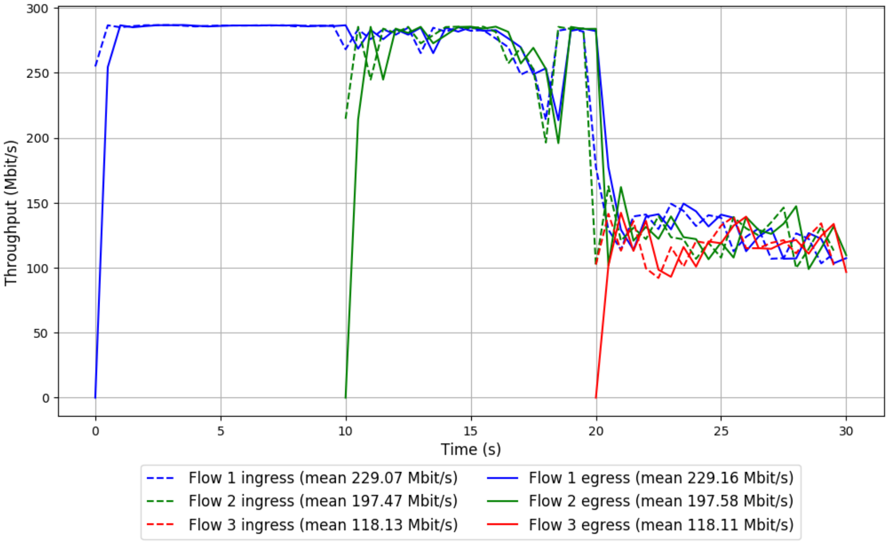


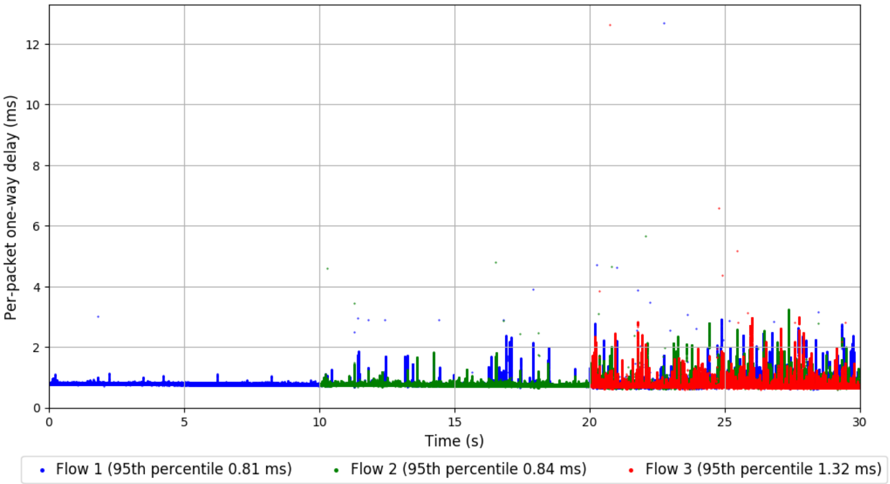
```
Run 6: Statistics of TaoVA-100x

Start at: 2018-06-30 16:46:32
End at: 2018-06-30 16:47:02
Local clock offset: -0.133 ms
Remote clock offset: 2.229 ms

# Below is generated by plot.py at 2018-06-30 20:25:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.88 Mbit/s
95th percentile per-packet one-way delay: 0.870 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 229.16 Mbit/s
95th percentile per-packet one-way delay: 0.814 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 197.58 Mbit/s
95th percentile per-packet one-way delay: 0.842 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 118.11 Mbit/s
95th percentile per-packet one-way delay: 1.321 ms
Loss rate: 0.25%
```

Run 6: Report of TaoVA-100x — Data Link



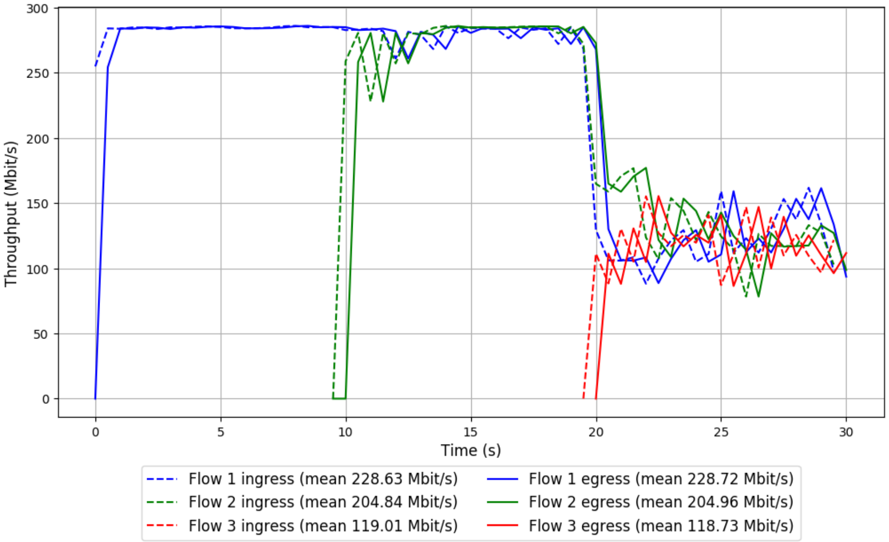


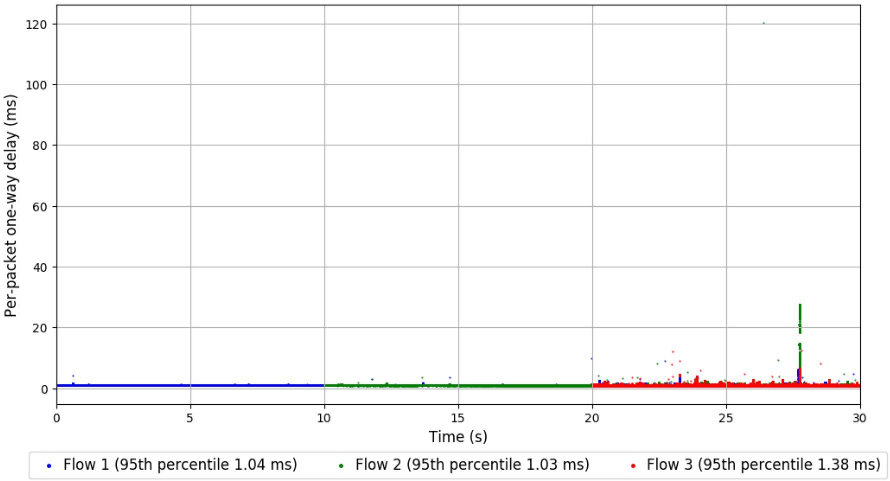
```
Run 7: Statistics of TaoVA-100x

Start at: 2018-06-30 17:13:11
End at: 2018-06-30 17:13:41
Local clock offset: 3.402 ms
Remote clock offset: 3.908 ms

# Below is generated by plot.py at 2018-06-30 20:25:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 404.68 Mbit/s
95th percentile per-packet one-way delay: 1.047 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 228.72 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 204.96 Mbit/s
95th percentile per-packet one-way delay: 1.029 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 118.73 Mbit/s
95th percentile per-packet one-way delay: 1.378 ms
Loss rate: 0.44%
```

Run 7: Report of TaoVA-100x — Data Link



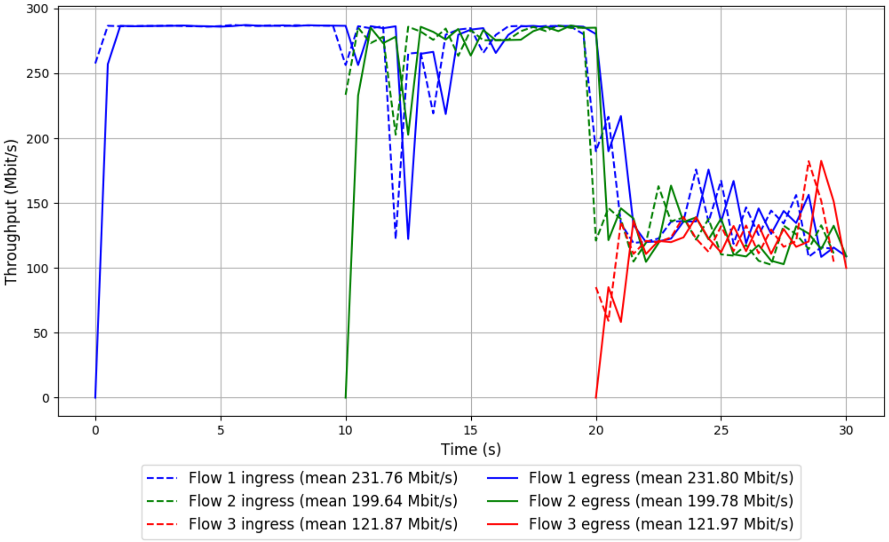


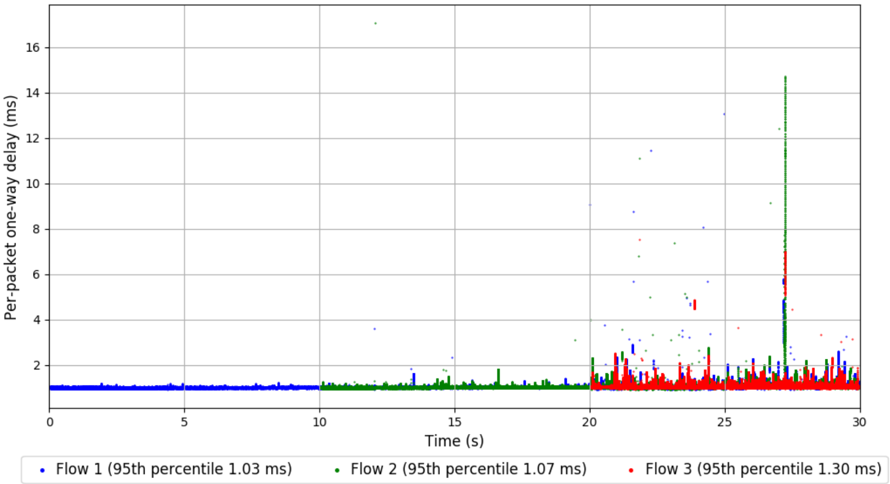
```
Run 8: Statistics of TaoVA-100x

Start at: 2018-06-30 17:39:47
End at: 2018-06-30 17:40:17
Local clock offset: 0.064 ms
Remote clock offset: 3.474 ms

# Below is generated by plot.py at 2018-06-30 20:25:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 405.13 Mbit/s
95th percentile per-packet one-way delay: 1.072 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 231.80 Mbit/s
95th percentile per-packet one-way delay: 1.035 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 199.78 Mbit/s
95th percentile per-packet one-way delay: 1.073 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 121.97 Mbit/s
95th percentile per-packet one-way delay: 1.300 ms
Loss rate: 0.22%
```

Run 8: Report of TaoVA-100x — Data Link



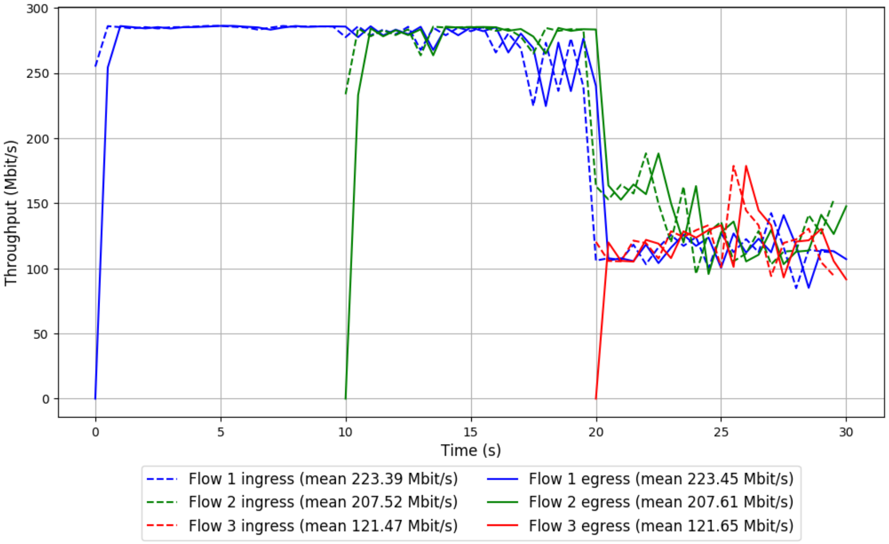


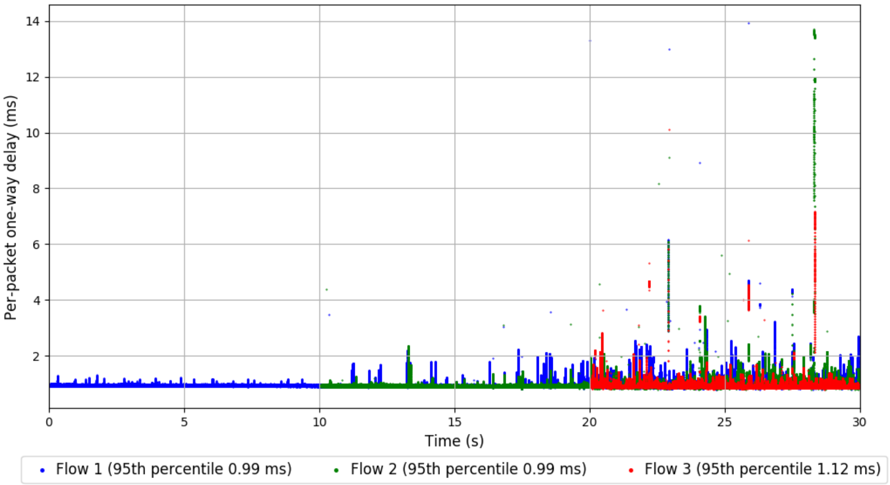
```
Run 9: Statistics of TaoVA-100x

Start at: 2018-06-30 18:06:15
End at: 2018-06-30 18:06:45
Local clock offset: 3.696 ms
Remote clock offset: -0.486 ms

# Below is generated by plot.py at 2018-06-30 20:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.94 Mbit/s
95th percentile per-packet one-way delay: 1.015 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 223.45 Mbit/s
95th percentile per-packet one-way delay: 0.993 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 207.61 Mbit/s
95th percentile per-packet one-way delay: 0.987 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 121.65 Mbit/s
95th percentile per-packet one-way delay: 1.119 ms
Loss rate: 0.12%
```

Run 9: Report of TaoVA-100x — Data Link



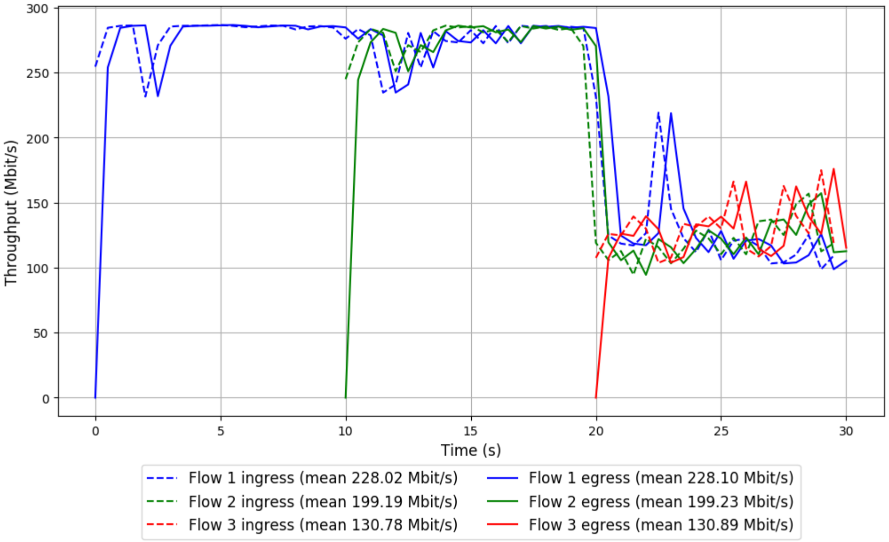


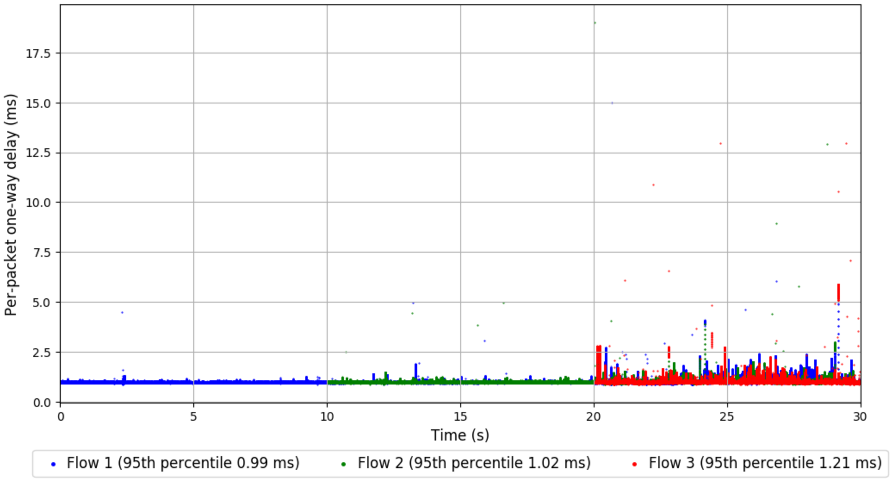
```
Run 10: Statistics of TaoVA-100x

Start at: 2018-06-30 18:32:51
End at: 2018-06-30 18:33:21
Local clock offset: 3.552 ms
Remote clock offset: -0.772 ms

# Below is generated by plot.py at 2018-06-30 20:33:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 404.08 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 228.10 Mbit/s
95th percentile per-packet one-way delay: 0.992 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 199.23 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 130.89 Mbit/s
95th percentile per-packet one-way delay: 1.208 ms
Loss rate: 0.15%
```

Run 10: Report of TaoVA-100x — Data Link



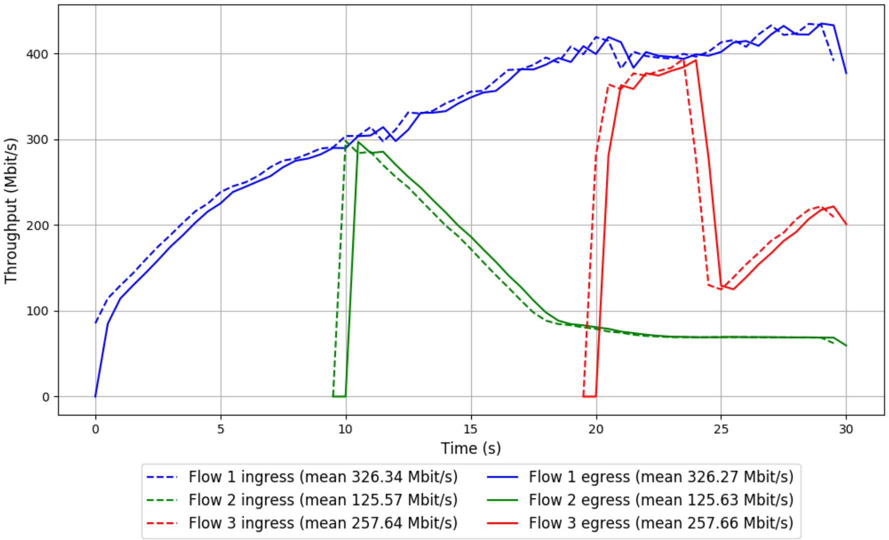


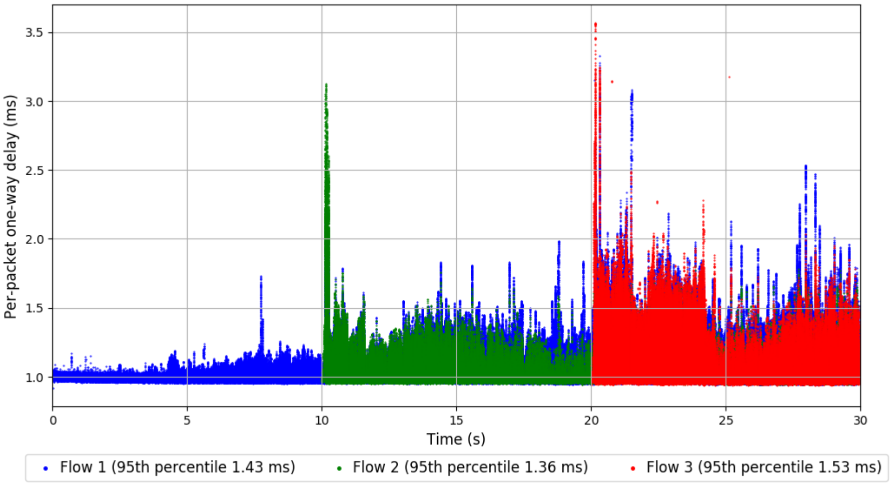
```
Run 1: Statistics of TCP Vegas

Start at: 2018-06-30 14:22:51
End at: 2018-06-30 14:23:21
Local clock offset: 3.269 ms
Remote clock offset: 3.014 ms

# Below is generated by plot.py at 2018-06-30 20:33:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.57 Mbit/s
95th percentile per-packet one-way delay: 1.448 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 326.27 Mbit/s
95th percentile per-packet one-way delay: 1.426 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 125.63 Mbit/s
95th percentile per-packet one-way delay: 1.364 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 257.66 Mbit/s
95th percentile per-packet one-way delay: 1.529 ms
Loss rate: 0.17%
```

Run 1: Report of TCP Vegas — Data Link



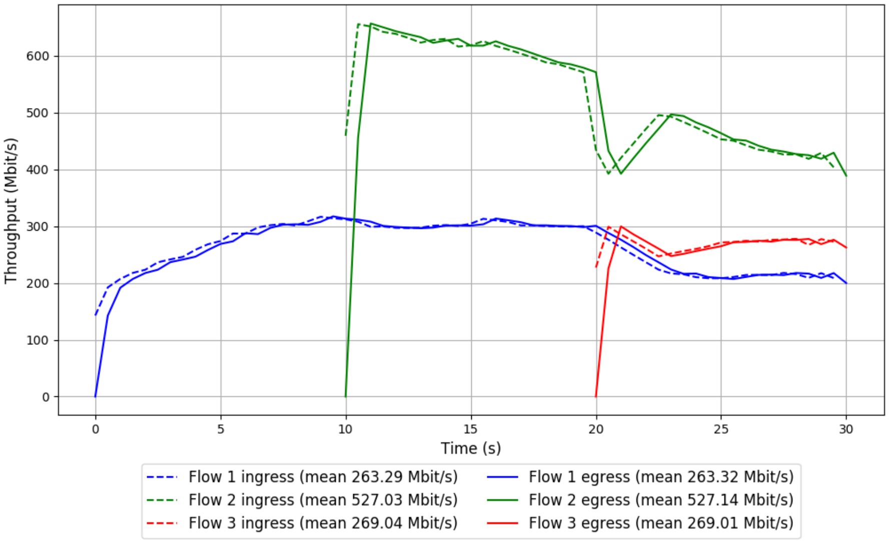


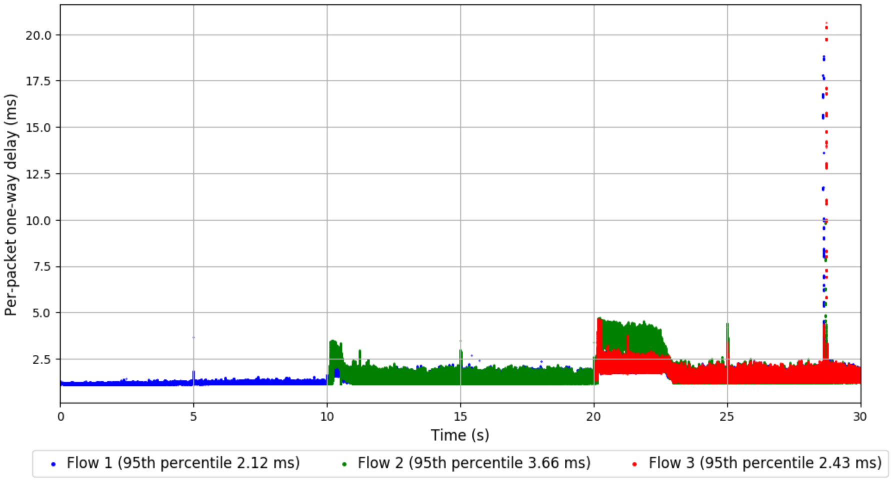
```
Run 2: Statistics of TCP Vegas

Start at: 2018-06-30 14:49:25
End at: 2018-06-30 14:49:55
Local clock offset: 1.96 ms
Remote clock offset: 3.003 ms

# Below is generated by plot.py at 2018-06-30 20:33:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 703.69 Mbit/s
95th percentile per-packet one-way delay: 2.804 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 263.32 Mbit/s
95th percentile per-packet one-way delay: 2.115 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 527.14 Mbit/s
95th percentile per-packet one-way delay: 3.659 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 269.01 Mbit/s
95th percentile per-packet one-way delay: 2.433 ms
Loss rate: 0.21%
```

Run 2: Report of TCP Vegas — Data Link



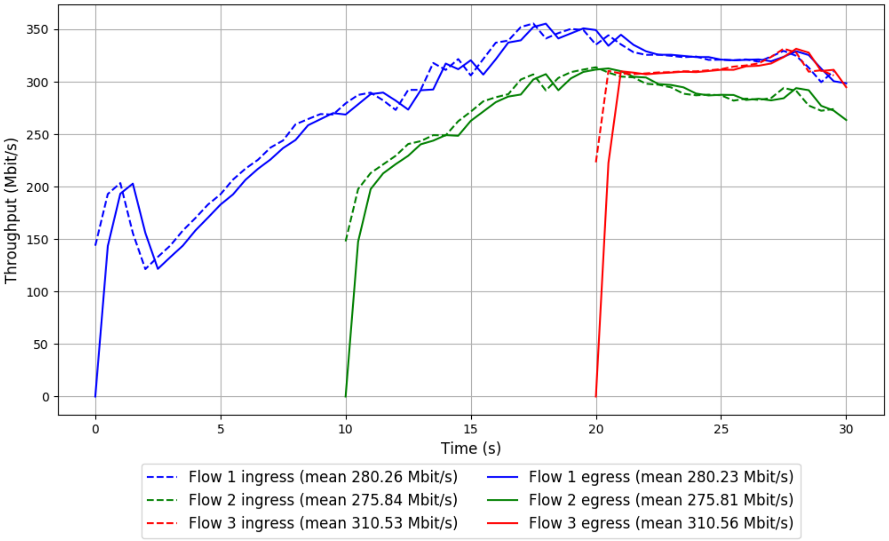


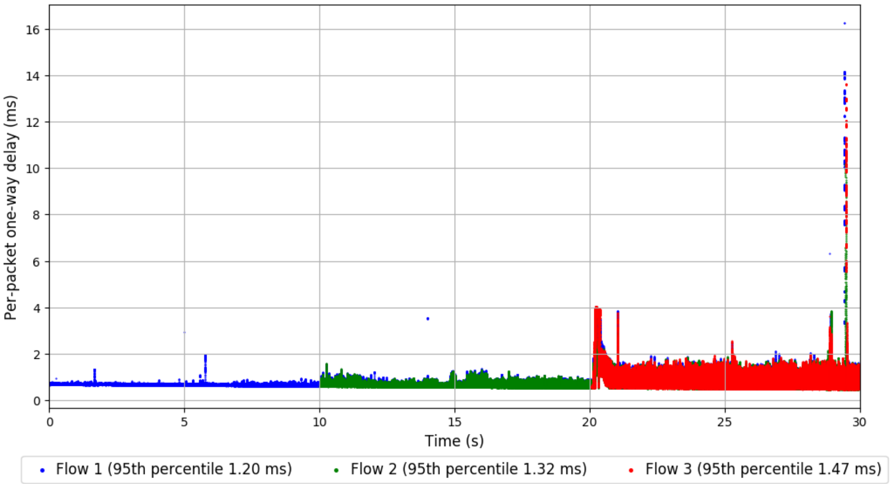
```
Run 3: Statistics of TCP Vegas

Start at: 2018-06-30 15:16:03
End at: 2018-06-30 15:16:33
Local clock offset: -0.383 ms
Remote clock offset: 3.158 ms

# Below is generated by plot.py at 2018-06-30 20:33:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 566.73 Mbit/s
95th percentile per-packet one-way delay: 1.315 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 280.23 Mbit/s
95th percentile per-packet one-way delay: 1.203 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 275.81 Mbit/s
95th percentile per-packet one-way delay: 1.322 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 310.56 Mbit/s
95th percentile per-packet one-way delay: 1.474 ms
Loss rate: 0.18%
```

Run 3: Report of TCP Vegas — Data Link



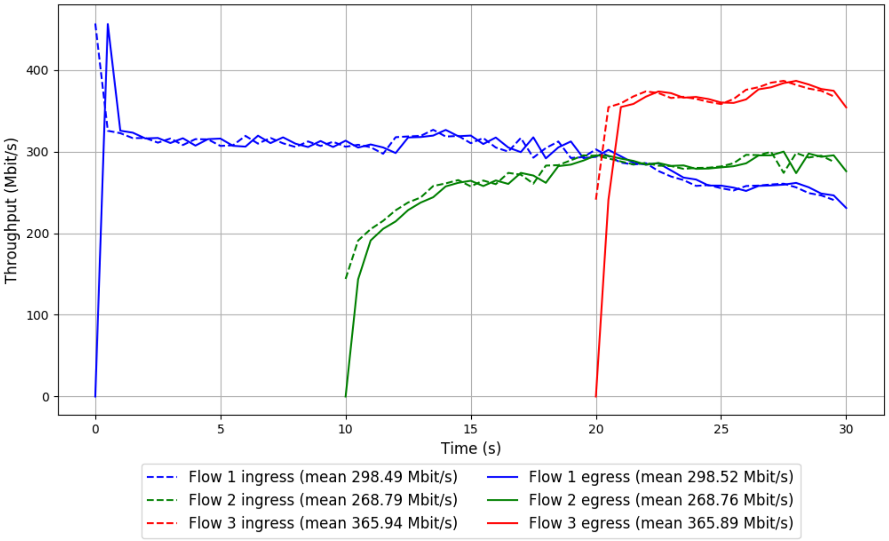


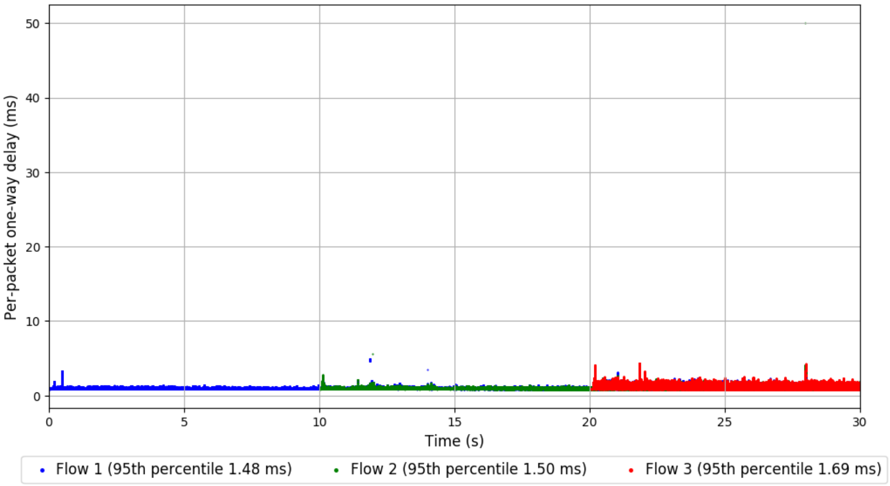
```
Run 4: Statistics of TCP Vegas

Start at: 2018-06-30 15:42:34
End at: 2018-06-30 15:43:04
Local clock offset: 3.671 ms
Remote clock offset: 0.242 ms

# Below is generated by plot.py at 2018-06-30 20:33:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 598.59 Mbit/s
95th percentile per-packet one-way delay: 1.549 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 298.52 Mbit/s
95th percentile per-packet one-way delay: 1.482 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 268.76 Mbit/s
95th percentile per-packet one-way delay: 1.505 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 365.89 Mbit/s
95th percentile per-packet one-way delay: 1.687 ms
Loss rate: 0.20%
```

Run 4: Report of TCP Vegas — Data Link



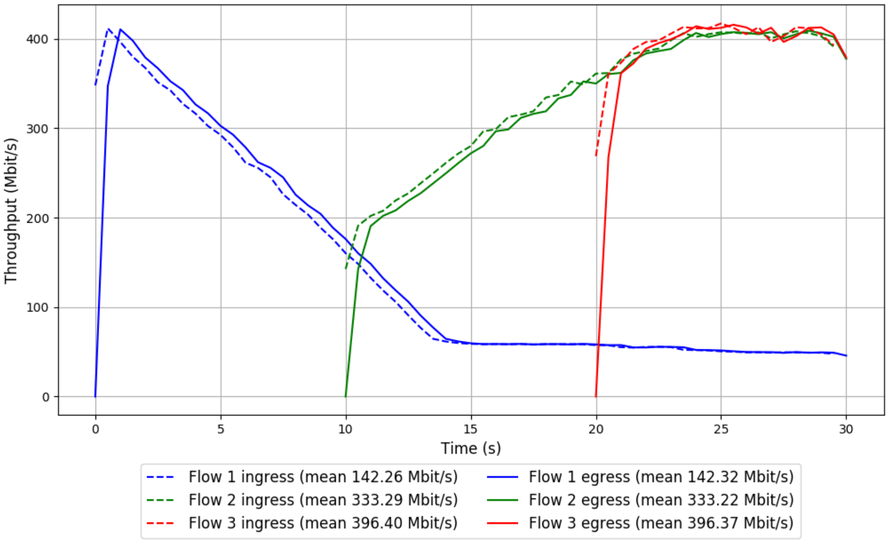


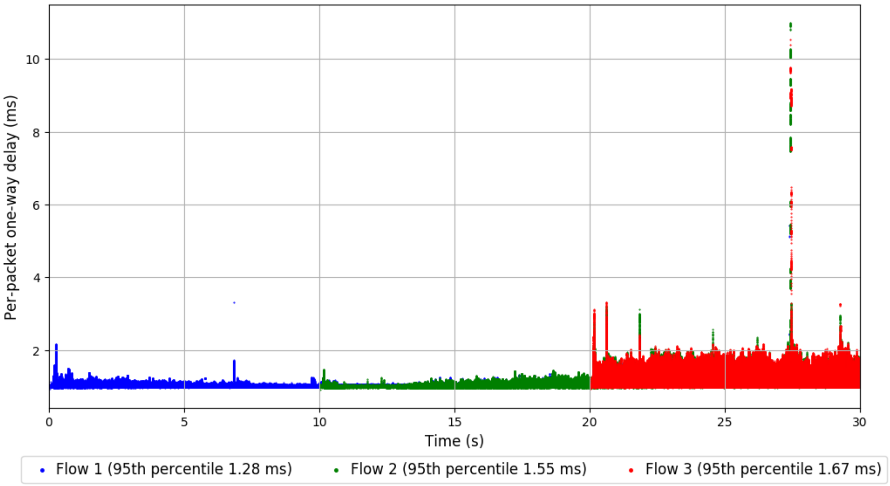
```
Run 5: Statistics of TCP Vegas

Start at: 2018-06-30 16:09:06
End at: 2018-06-30 16:09:36
Local clock offset: 3.312 ms
Remote clock offset: -0.474 ms

# Below is generated by plot.py at 2018-06-30 20:33:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.75 Mbit/s
95th percentile per-packet one-way delay: 1.582 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 142.32 Mbit/s
95th percentile per-packet one-way delay: 1.280 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 333.22 Mbit/s
95th percentile per-packet one-way delay: 1.555 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 396.37 Mbit/s
95th percentile per-packet one-way delay: 1.674 ms
Loss rate: 0.19%
```

Run 5: Report of TCP Vegas — Data Link



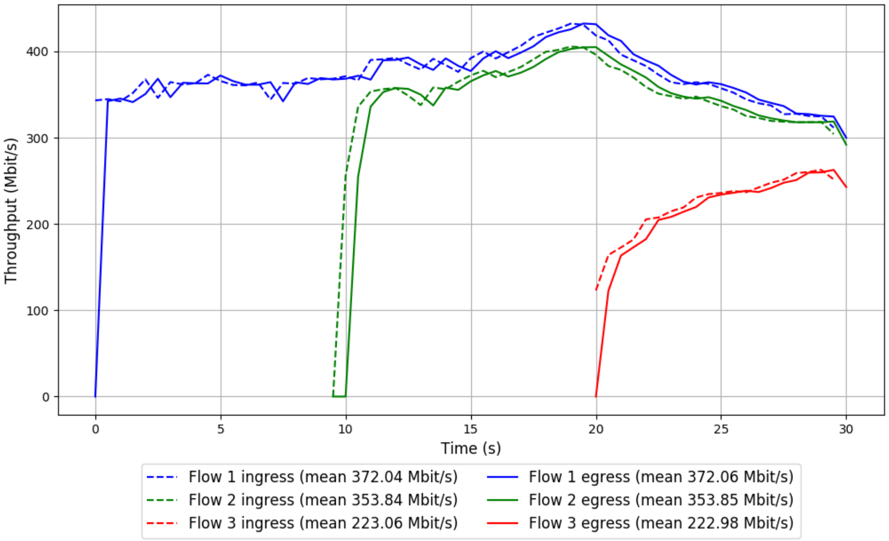


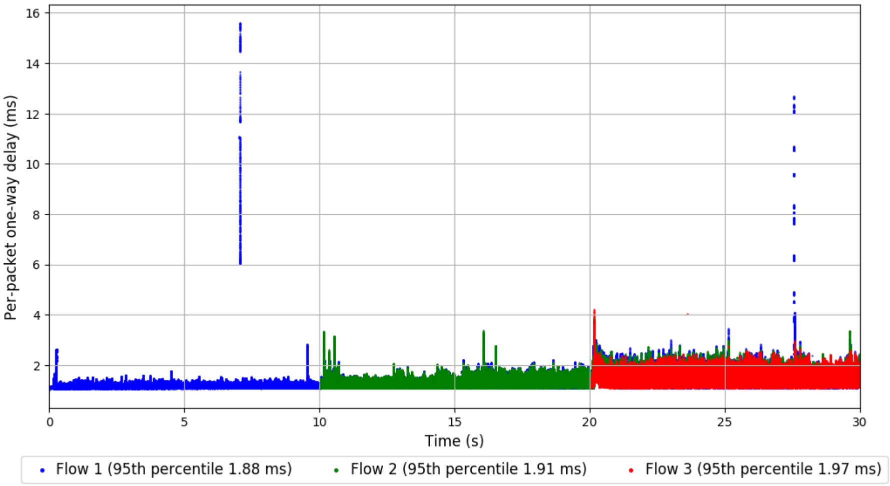
```
Run 6: Statistics of TCP Vegas

Start at: 2018-06-30 16:35:33
End at: 2018-06-30 16:36:03
Local clock offset: 0.024 ms
Remote clock offset: -0.26 ms

# Below is generated by plot.py at 2018-06-30 20:33:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 681.79 Mbit/s
95th percentile per-packet one-way delay: 1.907 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 372.06 Mbit/s
95th percentile per-packet one-way delay: 1.875 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 353.85 Mbit/s
95th percentile per-packet one-way delay: 1.910 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 222.98 Mbit/s
95th percentile per-packet one-way delay: 1.974 ms
Loss rate: 0.22%
```

Run 6: Report of TCP Vegas — Data Link



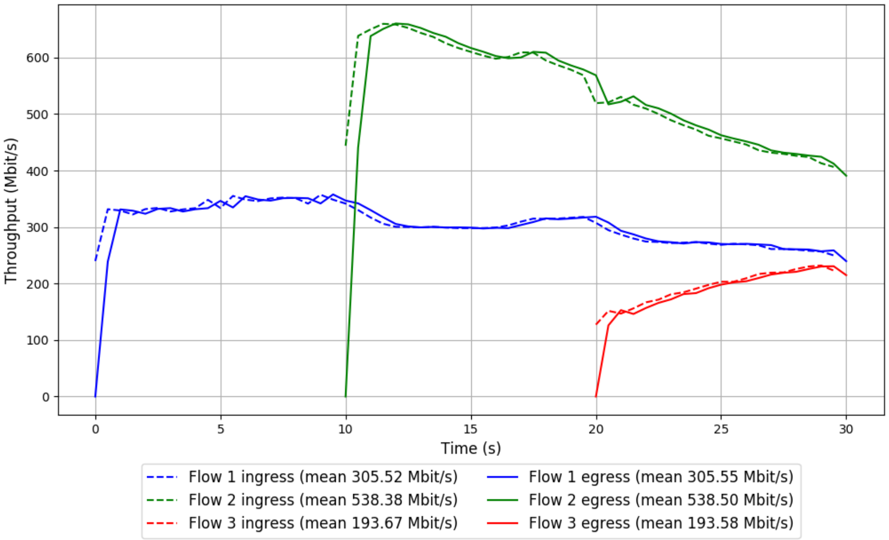


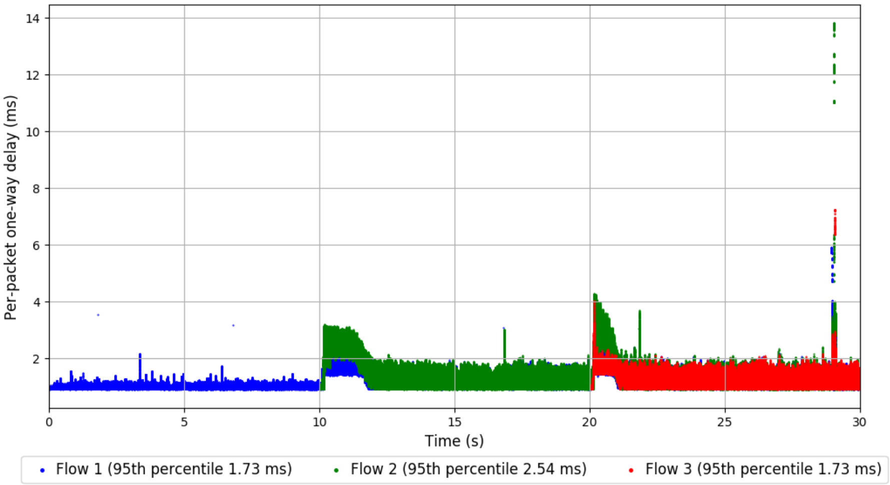
```
Run 7: Statistics of TCP Vegas

Start at: 2018-06-30 17:02:06
End at: 2018-06-30 17:02:36
Local clock offset: 2.838 ms
Remote clock offset: 3.748 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 728.37 Mbit/s
95th percentile per-packet one-way delay: 2.163 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 305.55 Mbit/s
95th percentile per-packet one-way delay: 1.734 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 538.50 Mbit/s
95th percentile per-packet one-way delay: 2.540 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 193.58 Mbit/s
95th percentile per-packet one-way delay: 1.728 ms
Loss rate: 0.24%
```

Run 7: Report of TCP Vegas — Data Link



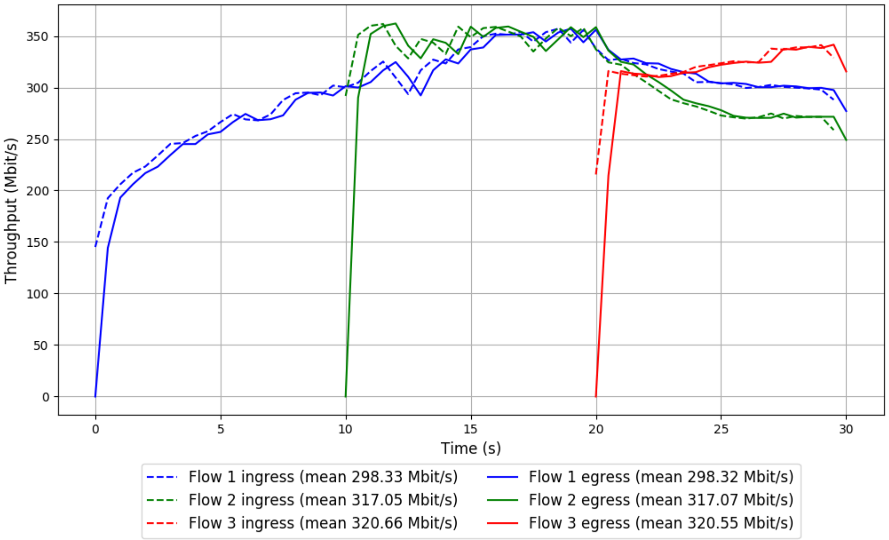


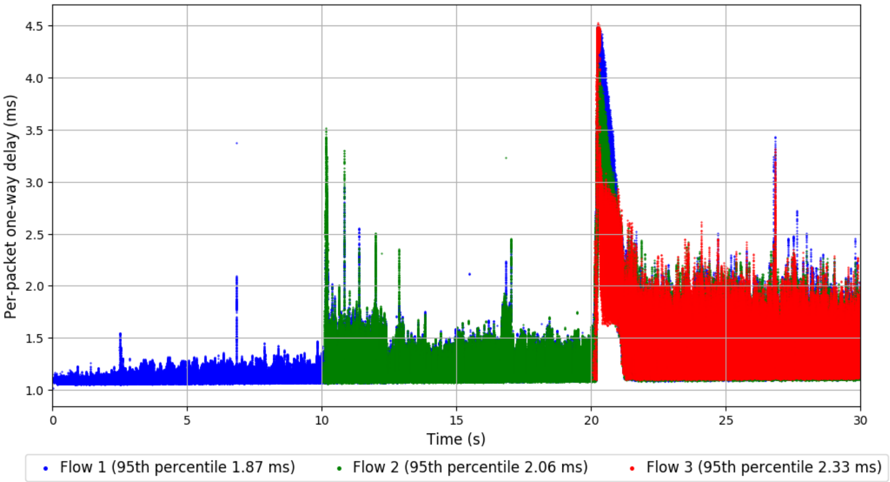
```
Run 8: Statistics of TCP Vegas

Start at: 2018-06-30 17:28:47
End at: 2018-06-30 17:29:17
Local clock offset: 0.821 ms
Remote clock offset: 3.408 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 615.56 Mbit/s
95th percentile per-packet one-way delay: 2.024 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 298.32 Mbit/s
95th percentile per-packet one-way delay: 1.873 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 317.07 Mbit/s
95th percentile per-packet one-way delay: 2.055 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 320.55 Mbit/s
95th percentile per-packet one-way delay: 2.331 ms
Loss rate: 0.22%
```

Run 8: Report of TCP Vegas — Data Link



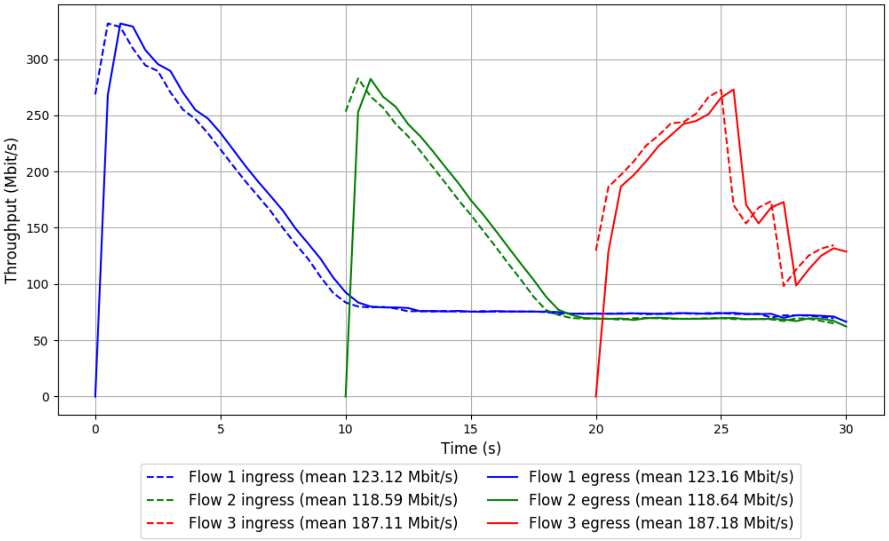


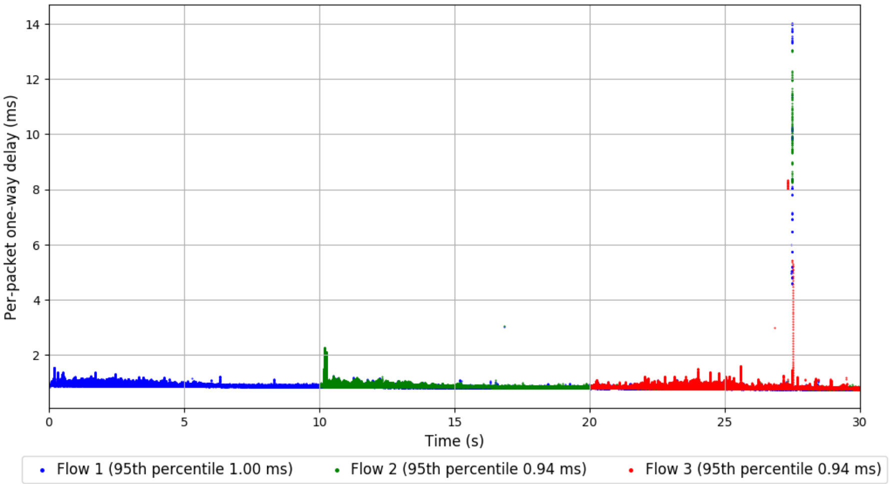
```
Run 9: Statistics of TCP Vegas

Start at: 2018-06-30 17:55:28
End at: 2018-06-30 17:55:58
Local clock offset: 2.626 ms
Remote clock offset: 0.647 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.17 Mbit/s
95th percentile per-packet one-way delay: 0.980 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 123.16 Mbit/s
95th percentile per-packet one-way delay: 1.004 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 118.64 Mbit/s
95th percentile per-packet one-way delay: 0.943 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 187.18 Mbit/s
95th percentile per-packet one-way delay: 0.935 ms
Loss rate: 0.16%
```

Run 9: Report of TCP Vegas — Data Link

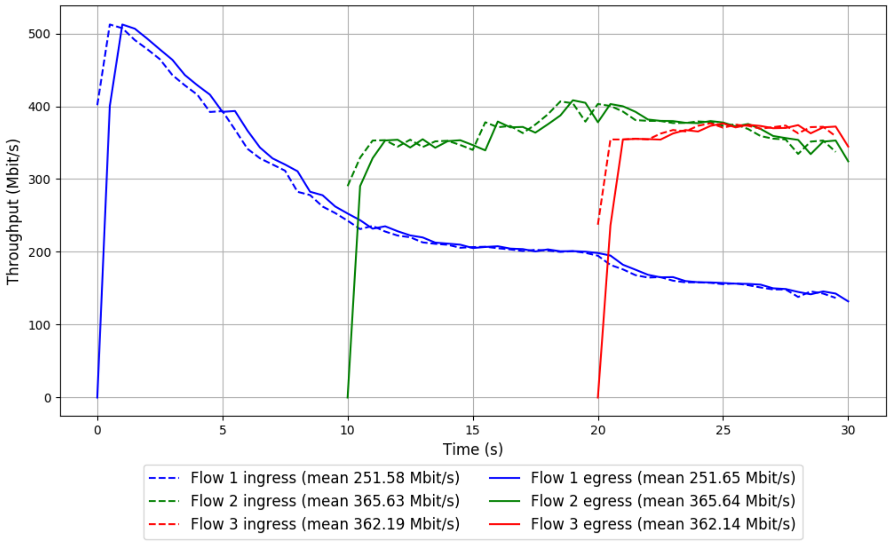


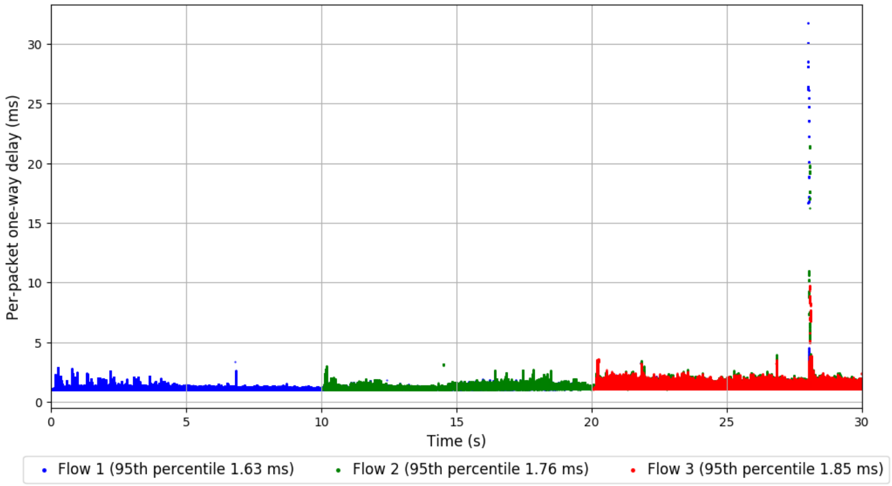


```
Run 10: Statistics of TCP Vegas

Start at: 2018-06-30 18:21:48
End at: 2018-06-30 18:22:18
Local clock offset: 3.754 ms
Remote clock offset: -1.08 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 615.04 Mbit/s
95th percentile per-packet one-way delay: 1.750 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 251.65 Mbit/s
95th percentile per-packet one-way delay: 1.630 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 365.64 Mbit/s
95th percentile per-packet one-way delay: 1.763 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 362.14 Mbit/s
95th percentile per-packet one-way delay: 1.854 ms
Loss rate: 0.21%
```


Throughput (Mbit/s)
0
100
200
300
400
500
Time (s)
0
5
10
15
20
25
30
Flow 1 ingress (mean 251.58 Mbit/s)
Flow 2 ingress (mean 365.63 Mbit/s)
Flow 3 ingress (mean 362.19 Mbit/s)
Flow 1 egress (mean 251.65 Mbit/s)
Flow 2 egress (mean 365.64 Mbit/s)
Flow 3 egress (mean 362.14 Mbit/s)

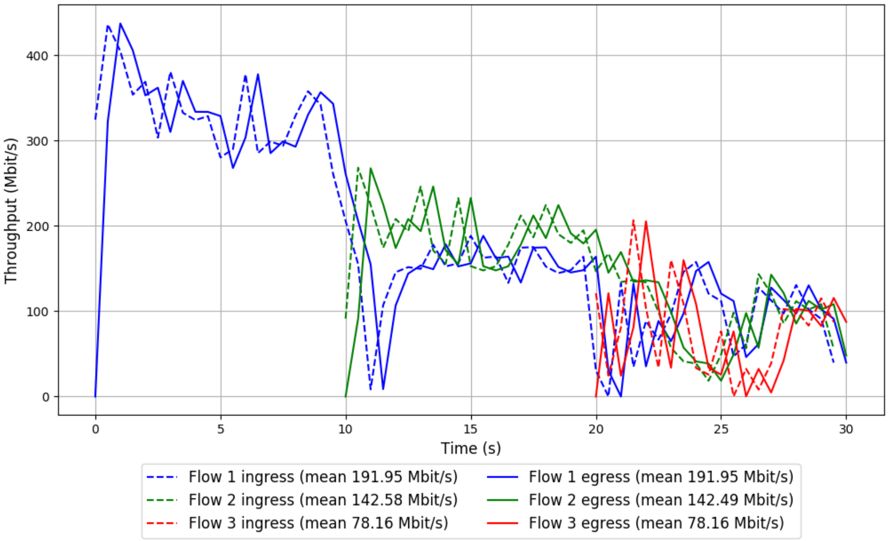

Per-packet one-way delay (ms)
0
5
10
15
20
25
30
Time (s)
0
5
10
15
20
25
30
Flow 1 (95th percentile 1.63 ms)
Flow 2 (95th percentile 1.76 ms)
Flow 3 (95th percentile 1.85 ms)

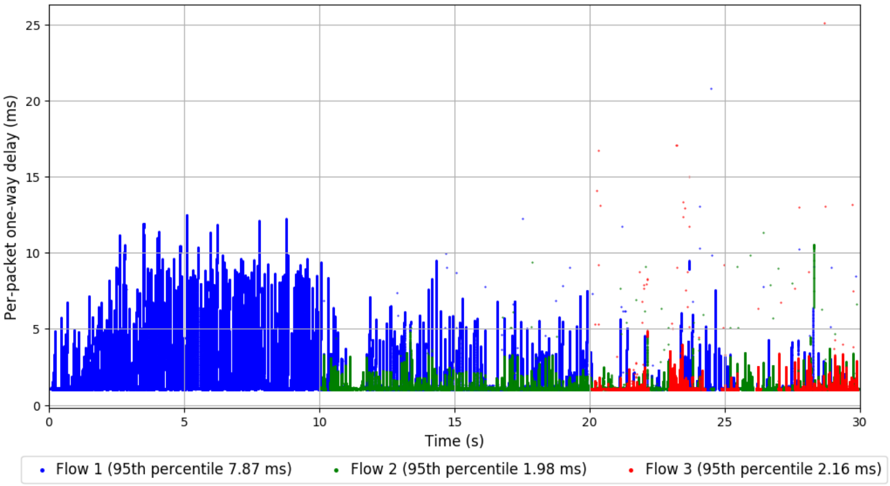
```
Run 1: Statistics of Verus

Start at: 2018-06-30 14:24:25
End at: 2018-06-30 14:24:55
Local clock offset: 3.319 ms
Remote clock offset: 2.942 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 312.41 Mbit/s
95th percentile per-packet one-way delay: 7.128 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 191.95 Mbit/s
95th percentile per-packet one-way delay: 7.865 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 142.49 Mbit/s
95th percentile per-packet one-way delay: 1.977 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 78.16 Mbit/s
95th percentile per-packet one-way delay: 2.156 ms
Loss rate: 0.00%
```

Run 1: Report of Verus — Data Link



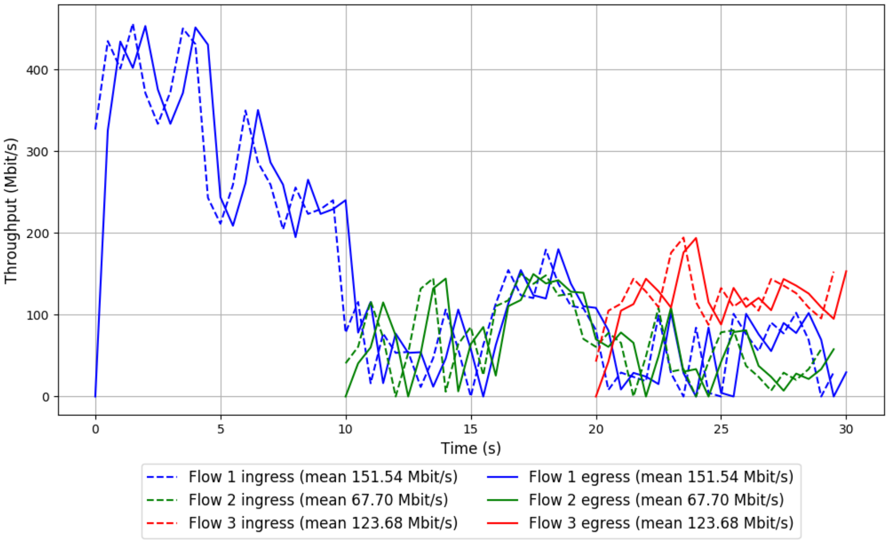


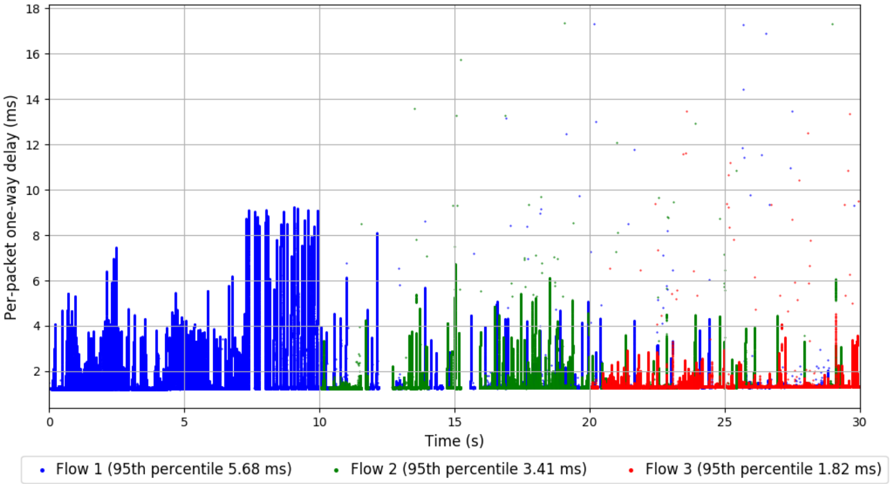
```
Run 2: Statistics of Verus

Start at: 2018-06-30 14:51:07
End at: 2018-06-30 14:51:37
Local clock offset: 1.63 ms
Remote clock offset: 2.989 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 236.03 Mbit/s
95th percentile per-packet one-way delay: 4.724 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.54 Mbit/s
95th percentile per-packet one-way delay: 5.683 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 67.70 Mbit/s
95th percentile per-packet one-way delay: 3.414 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 123.68 Mbit/s
95th percentile per-packet one-way delay: 1.817 ms
Loss rate: 0.00%
```

Run 2: Report of Verus — Data Link



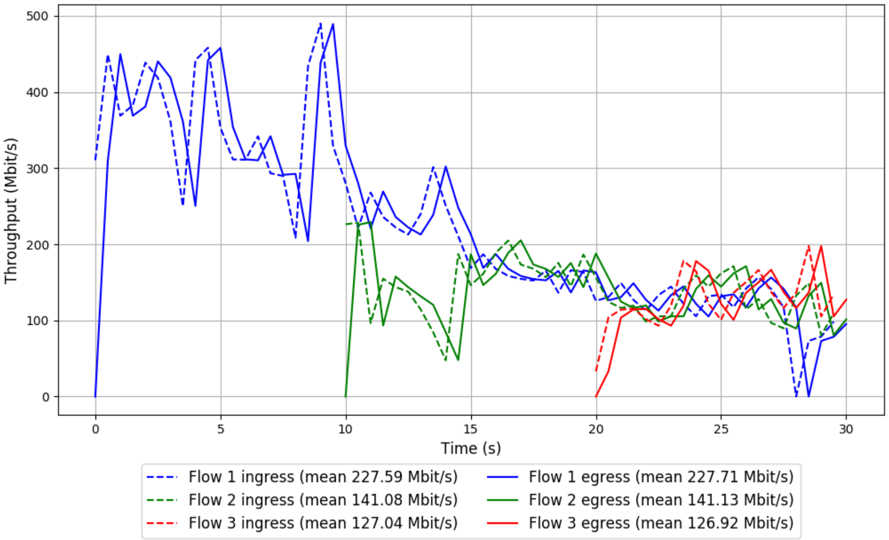


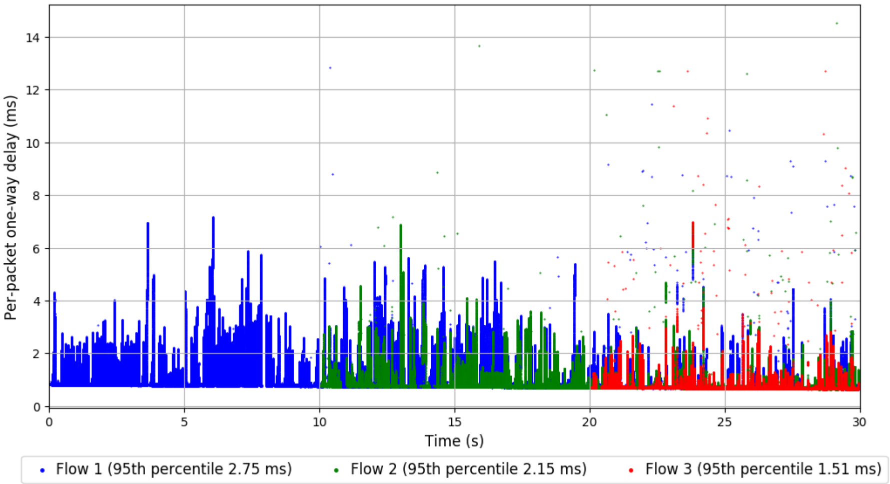
```
Run 3: Statistics of Verus

Start at: 2018-06-30 15:17:39
End at: 2018-06-30 15:18:09
Local clock offset: 0.371 ms
Remote clock offset: 3.19 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.62 Mbit/s
95th percentile per-packet one-way delay: 2.530 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 227.71 Mbit/s
95th percentile per-packet one-way delay: 2.746 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 141.13 Mbit/s
95th percentile per-packet one-way delay: 2.150 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 126.92 Mbit/s
95th percentile per-packet one-way delay: 1.510 ms
Loss rate: 0.28%
```

Run 3: Report of Verus — Data Link



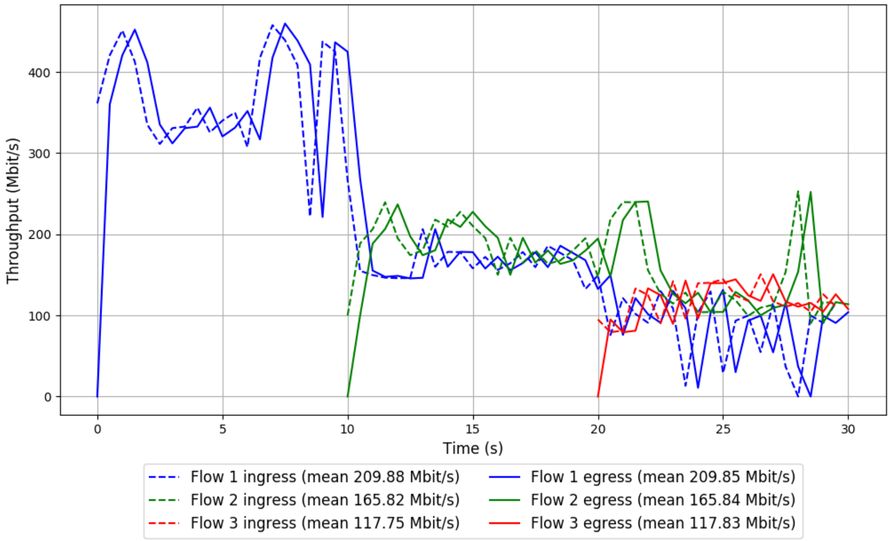


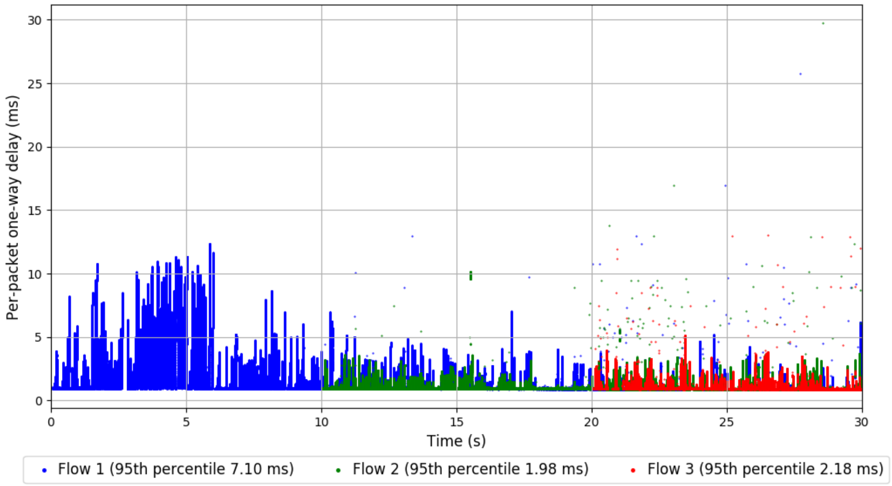
```
Run 4: Statistics of Verus

Start at: 2018-06-30 15:44:12
End at: 2018-06-30 15:44:42
Local clock offset: 3.727 ms
Remote clock offset: 0.049 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 359.32 Mbit/s
95th percentile per-packet one-way delay: 5.604 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 209.85 Mbit/s
95th percentile per-packet one-way delay: 7.103 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 165.84 Mbit/s
95th percentile per-packet one-way delay: 1.980 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 117.83 Mbit/s
95th percentile per-packet one-way delay: 2.180 ms
Loss rate: 0.13%
```

Run 4: Report of Verus — Data Link



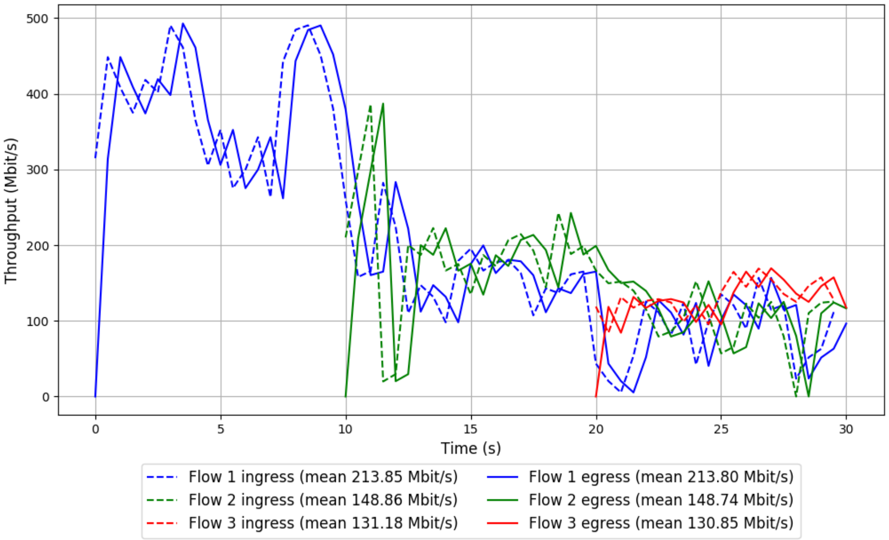


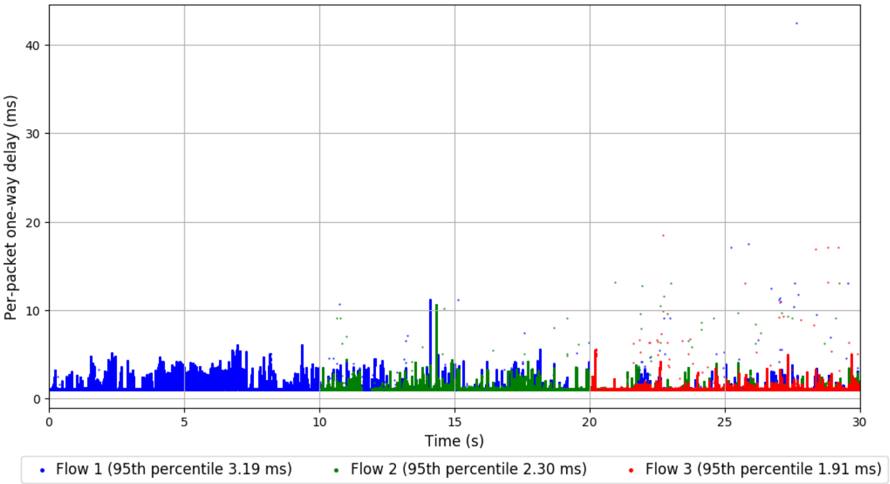
```
Run 5: Statistics of Verus

Start at: 2018-06-30 16:10:40
End at: 2018-06-30 16:11:10
Local clock offset: 3.299 ms
Remote clock offset: -0.481 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.14 Mbit/s
95th percentile per-packet one-way delay: 2.957 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 213.80 Mbit/s
95th percentile per-packet one-way delay: 3.192 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 148.74 Mbit/s
95th percentile per-packet one-way delay: 2.296 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 130.85 Mbit/s
95th percentile per-packet one-way delay: 1.910 ms
Loss rate: 0.41%
```

Run 5: Report of Verus — Data Link



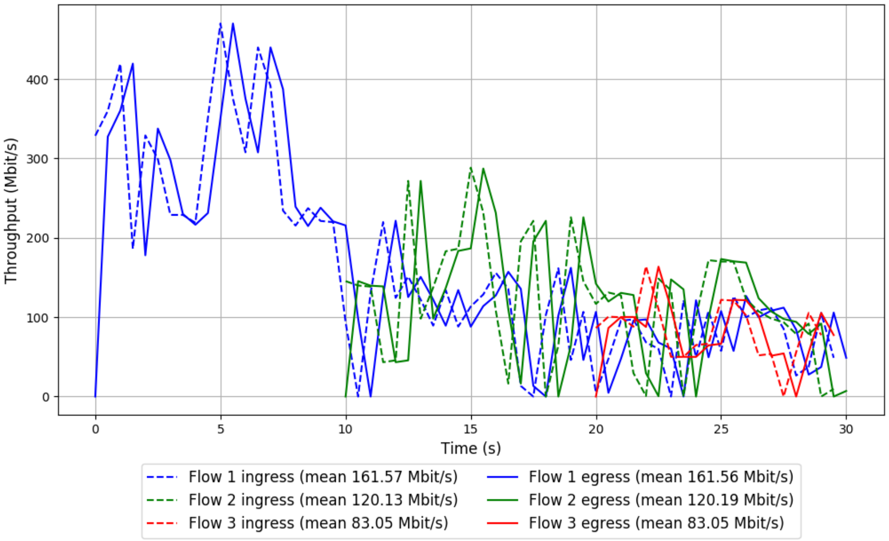


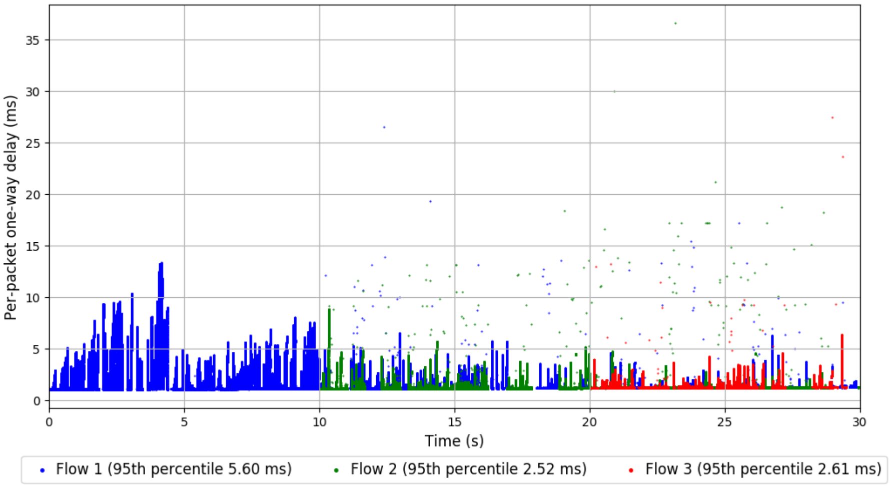
```
Run 6: Statistics of Verus

Start at: 2018-06-30 16:37:13
End at: 2018-06-30 16:37:43
Local clock offset: -0.203 ms
Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2018-06-30 20:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 267.17 Mbit/s
95th percentile per-packet one-way delay: 4.550 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 161.56 Mbit/s
95th percentile per-packet one-way delay: 5.603 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 120.19 Mbit/s
95th percentile per-packet one-way delay: 2.520 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 83.05 Mbit/s
95th percentile per-packet one-way delay: 2.613 ms
Loss rate: 0.00%
```

Run 6: Report of Verus — Data Link



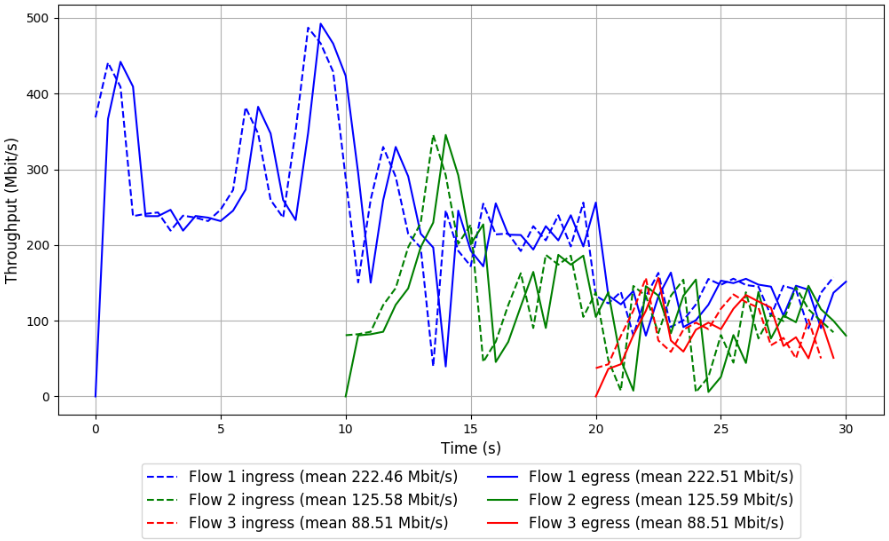


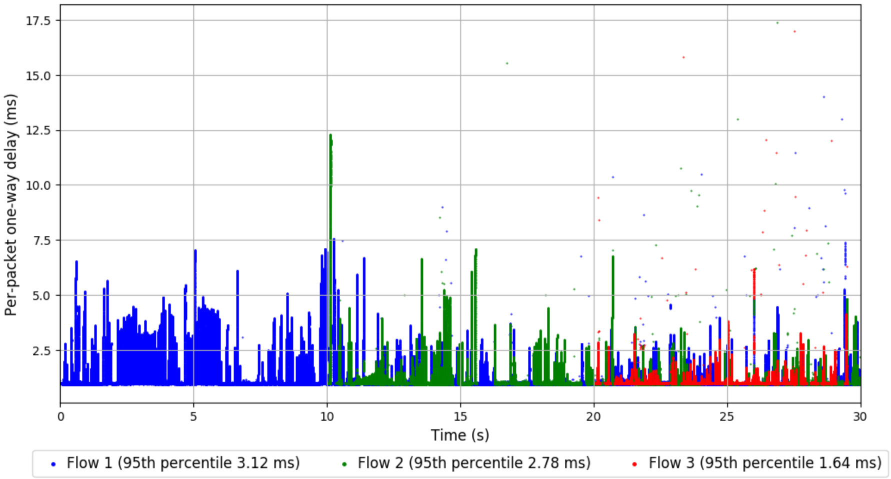
```
Run 7: Statistics of Verus

Start at: 2018-06-30 17:03:48
End at: 2018-06-30 17:04:18
Local clock offset: 2.981 ms
Remote clock offset: 3.84 ms

# Below is generated by plot.py at 2018-06-30 20:40:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 334.09 Mbit/s
95th percentile per-packet one-way delay: 2.968 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 222.51 Mbit/s
95th percentile per-packet one-way delay: 3.120 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 125.59 Mbit/s
95th percentile per-packet one-way delay: 2.782 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 88.51 Mbit/s
95th percentile per-packet one-way delay: 1.641 ms
Loss rate: 0.00%
```

Run 7: Report of Verus — Data Link



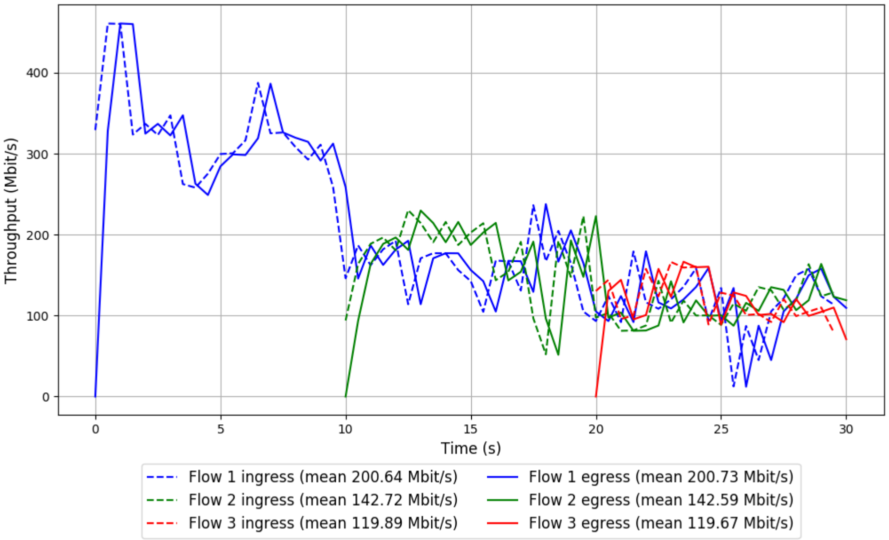


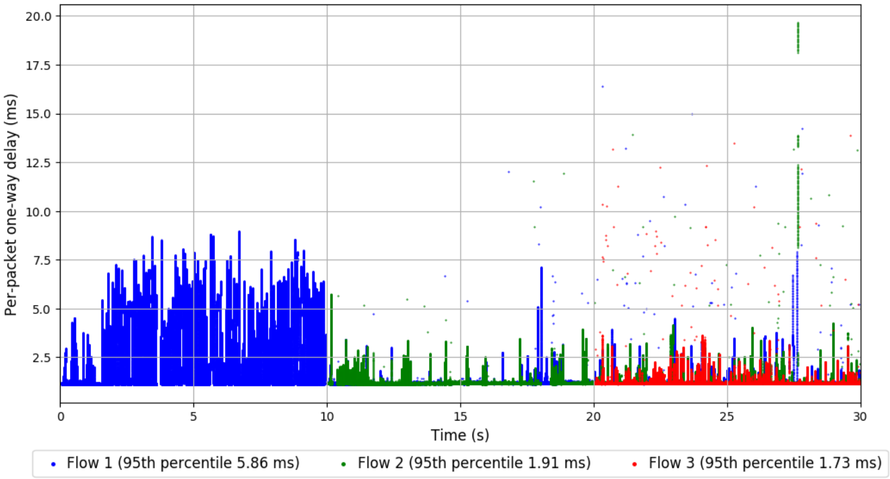
```
Run 8: Statistics of Verus

Start at: 2018-06-30 17:30:26
End at: 2018-06-30 17:30:56
Local clock offset: 0.683 ms
Remote clock offset: 3.364 ms

# Below is generated by plot.py at 2018-06-30 20:41:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 335.38 Mbit/s
95th percentile per-packet one-way delay: 5.216 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 200.73 Mbit/s
95th percentile per-packet one-way delay: 5.860 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 142.59 Mbit/s
95th percentile per-packet one-way delay: 1.905 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 119.67 Mbit/s
95th percentile per-packet one-way delay: 1.730 ms
Loss rate: 0.37%
```

Run 8: Report of Verus — Data Link



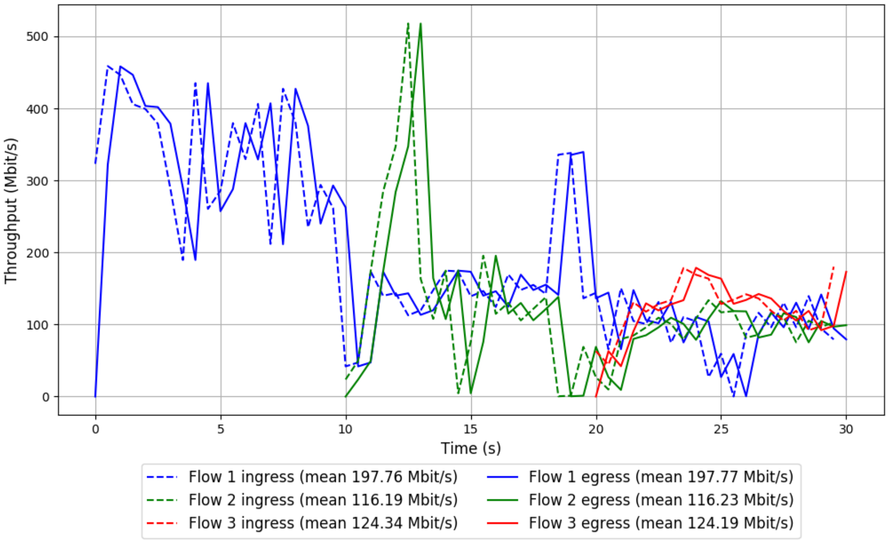


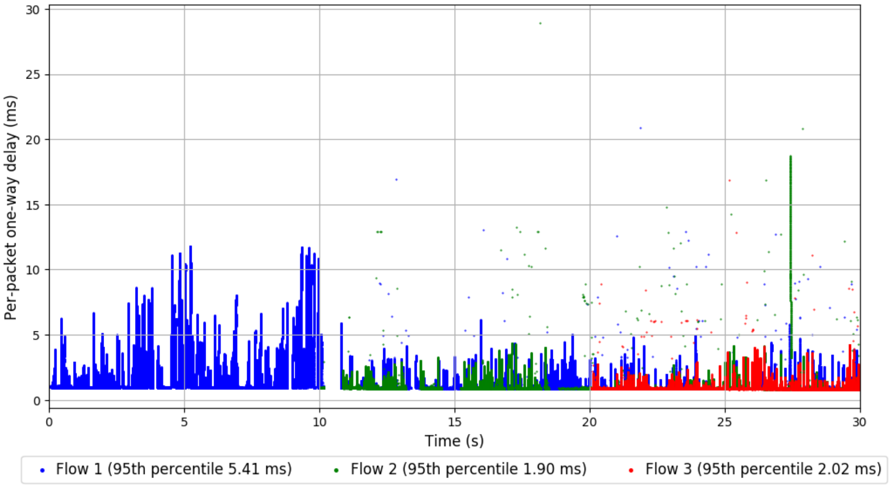
```
Run 9: Statistics of Verus

Start at: 2018-06-30 17:56:54
End at: 2018-06-30 17:57:24
Local clock offset: 2.842 ms
Remote clock offset: 0.395 ms

# Below is generated by plot.py at 2018-06-30 20:41:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.73 Mbit/s
95th percentile per-packet one-way delay: 4.049 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 197.77 Mbit/s
95th percentile per-packet one-way delay: 5.408 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 116.23 Mbit/s
95th percentile per-packet one-way delay: 1.897 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 124.19 Mbit/s
95th percentile per-packet one-way delay: 2.019 ms
Loss rate: 0.29%
```

Run 9: Report of Verus — Data Link



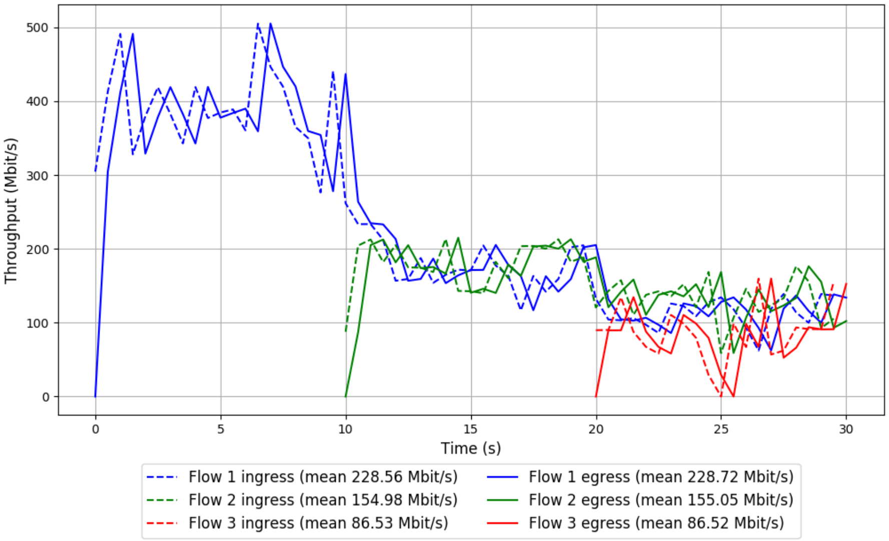


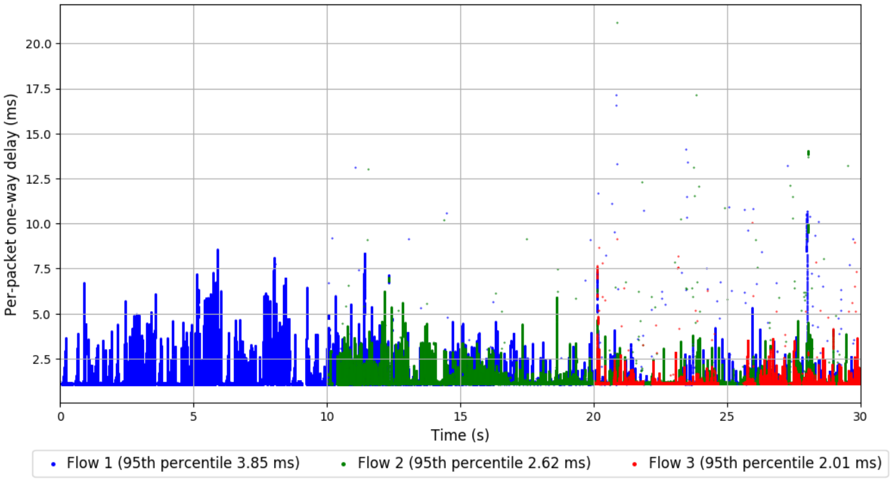
```
Run 10: Statistics of Verus

Start at: 2018-06-30 18:23:27
End at: 2018-06-30 18:23:57
Local clock offset: 3.717 ms
Remote clock offset: -0.998 ms

# Below is generated by plot.py at 2018-06-30 20:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.56 Mbit/s
95th percentile per-packet one-way delay: 3.424 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 228.72 Mbit/s
95th percentile per-packet one-way delay: 3.852 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 155.05 Mbit/s
95th percentile per-packet one-way delay: 2.615 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 86.52 Mbit/s
95th percentile per-packet one-way delay: 2.008 ms
Loss rate: 0.20%
```

Run 10: Report of Verus — Data Link



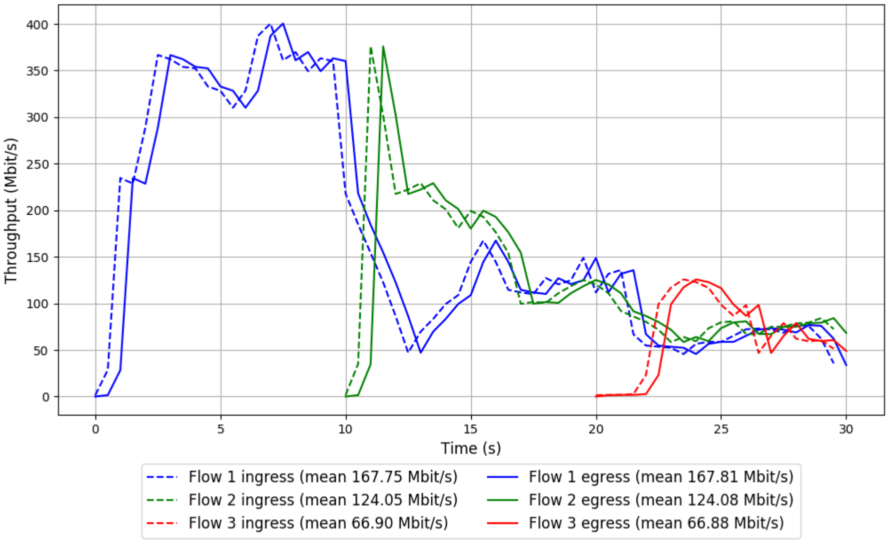


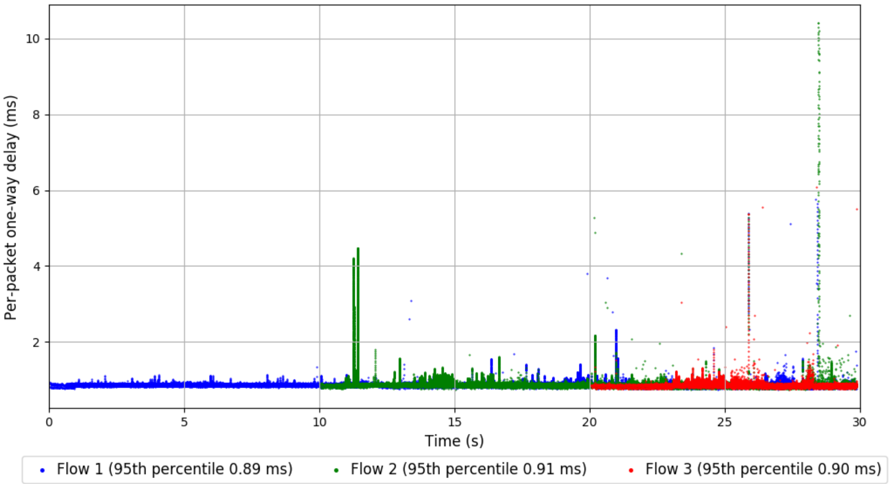
```
Run 1: Statistics of PCC-Vivace

Start at: 2018-06-30 14:21:20
End at: 2018-06-30 14:21:50
Local clock offset: 3.304 ms
Remote clock offset: 3.222 ms

# Below is generated by plot.py at 2018-06-30 20:42:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.32 Mbit/s
95th percentile per-packet one-way delay: 0.896 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 167.81 Mbit/s
95th percentile per-packet one-way delay: 0.893 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 124.08 Mbit/s
95th percentile per-packet one-way delay: 0.908 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 66.88 Mbit/s
95th percentile per-packet one-way delay: 0.904 ms
Loss rate: 0.17%
```

Run 1: Report of PCC-Vivace — Data Link



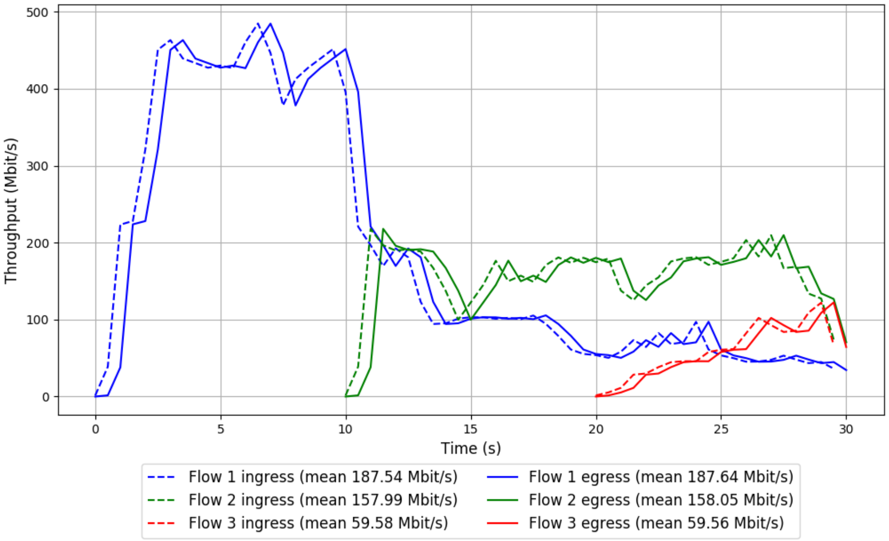


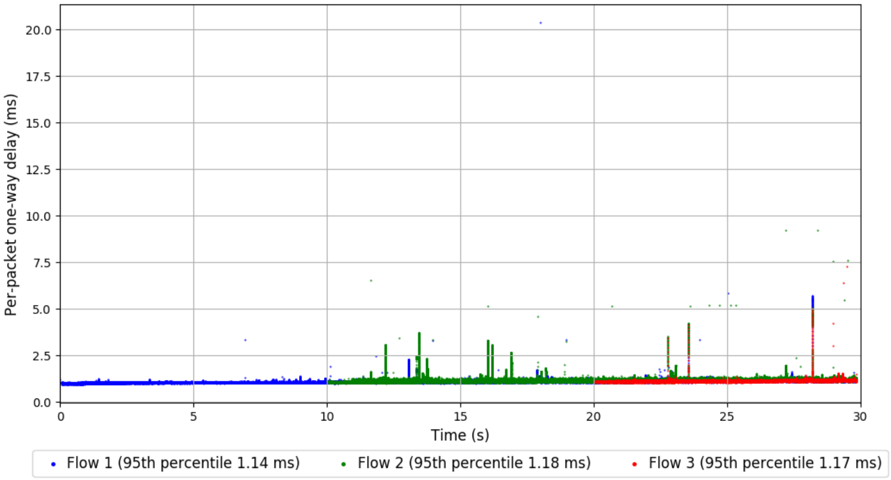
```
Run 2: Statistics of PCC-Vivace

Start at: 2018-06-30 14:47:52
End at: 2018-06-30 14:48:22
Local clock offset: 2.287 ms
Remote clock offset: 3.029 ms

# Below is generated by plot.py at 2018-06-30 20:42:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 312.35 Mbit/s
95th percentile per-packet one-way delay: 1.160 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 187.64 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 158.05 Mbit/s
95th percentile per-packet one-way delay: 1.177 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 59.56 Mbit/s
95th percentile per-packet one-way delay: 1.167 ms
Loss rate: 0.22%
```

Run 2: Report of PCC-Vivace — Data Link



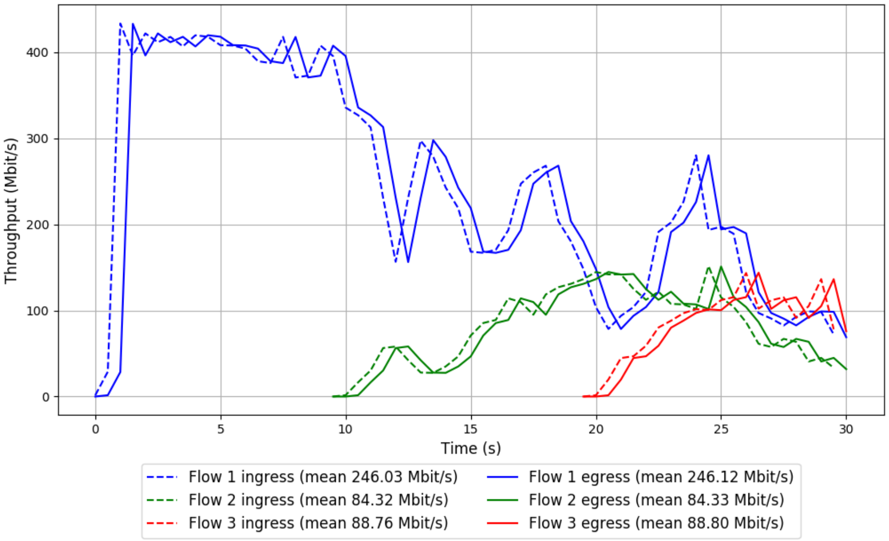


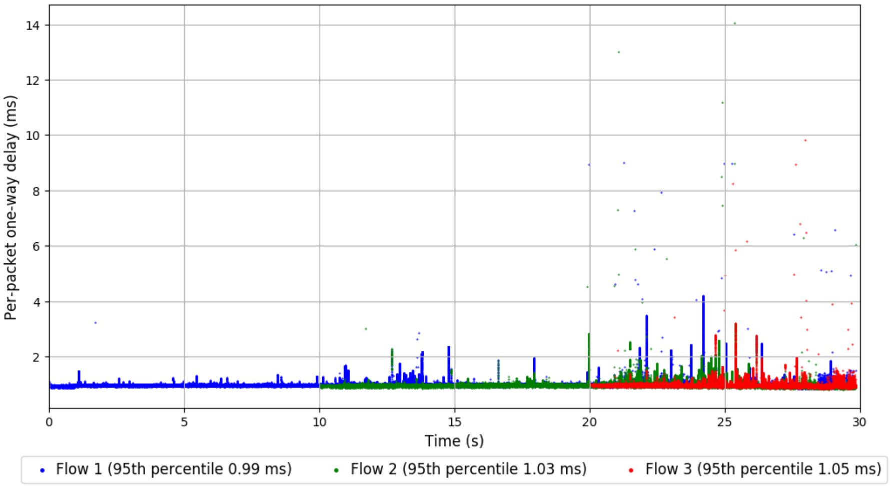
```
Run 3: Statistics of PCC-Vivace

Start at: 2018-06-30 15:14:29
End at: 2018-06-30 15:14:59
Local clock offset: -0.509 ms
Remote clock offset: 3.257 ms

# Below is generated by plot.py at 2018-06-30 20:43:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 331.45 Mbit/s
95th percentile per-packet one-way delay: 0.999 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 246.12 Mbit/s
95th percentile per-packet one-way delay: 0.995 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 84.33 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 88.80 Mbit/s
95th percentile per-packet one-way delay: 1.046 ms
Loss rate: 0.15%
```

Run 3: Report of PCC-Vivace — Data Link



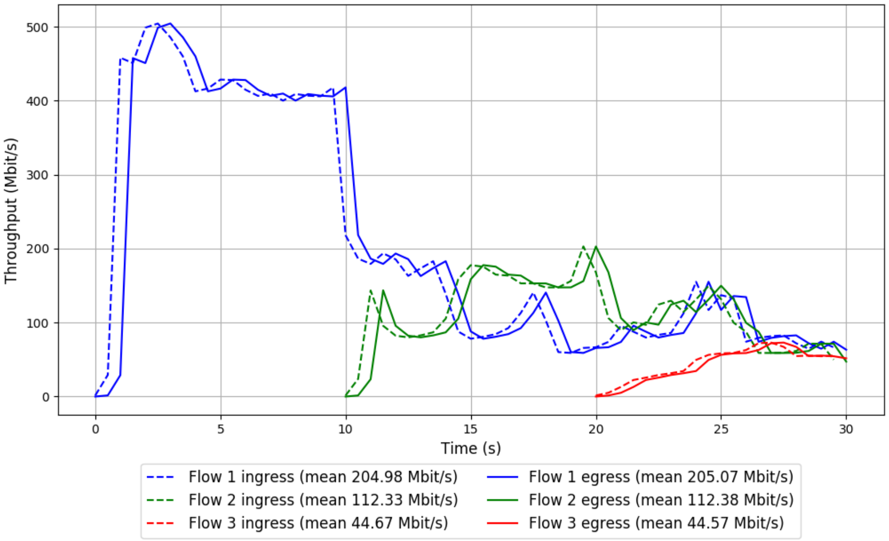


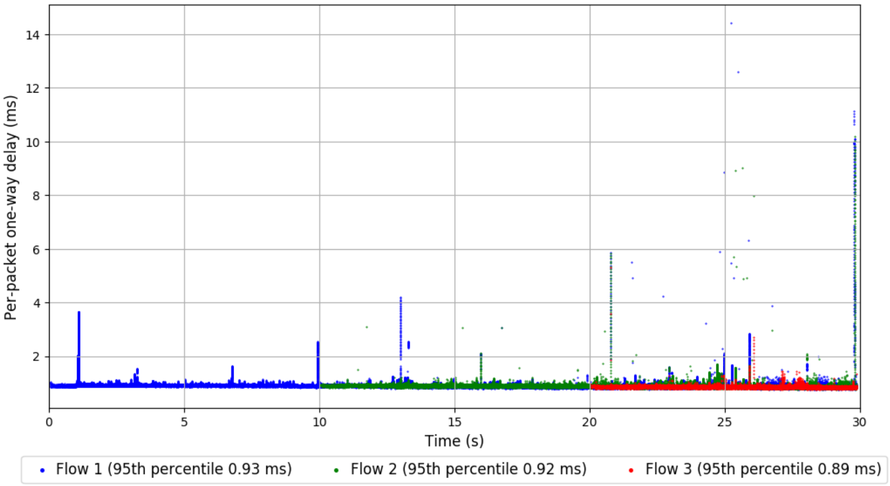
```
Run 4: Statistics of PCC-Vivace

Start at: 2018-06-30 15:41:03
End at: 2018-06-30 15:41:33
Local clock offset: 3.692 ms
Remote clock offset: 0.47 ms

# Below is generated by plot.py at 2018-06-30 20:43:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.40 Mbit/s
95th percentile per-packet one-way delay: 0.924 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 205.07 Mbit/s
95th percentile per-packet one-way delay: 0.925 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 112.38 Mbit/s
95th percentile per-packet one-way delay: 0.923 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 44.57 Mbit/s
95th percentile per-packet one-way delay: 0.894 ms
Loss rate: 0.43%
```

Run 4: Report of PCC-Vivace — Data Link



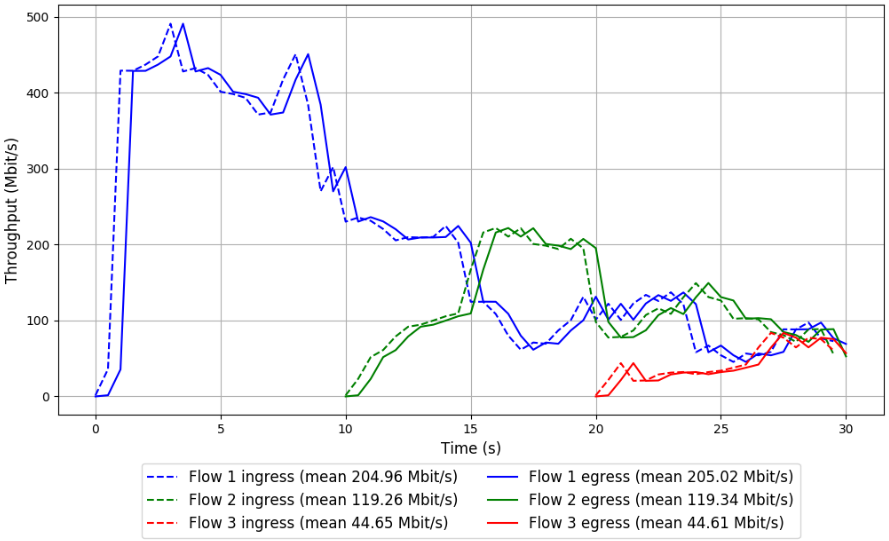


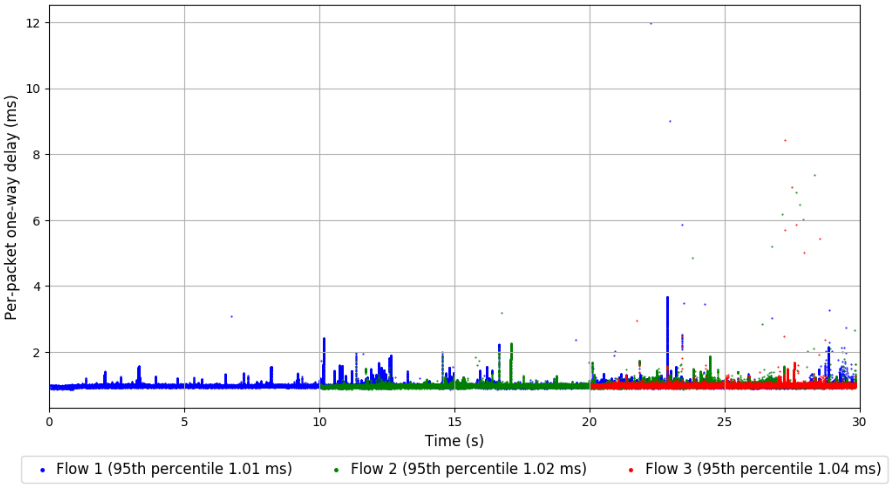
```
Run 5: Statistics of PCC-Vivace

Start at: 2018-06-30 16:07:34
End at: 2018-06-30 16:08:04
Local clock offset: 3.319 ms
Remote clock offset: -0.522 ms

# Below is generated by plot.py at 2018-06-30 20:43:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.05 Mbit/s
95th percentile per-packet one-way delay: 1.020 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 205.02 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 119.34 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 44.61 Mbit/s
95th percentile per-packet one-way delay: 1.041 ms
Loss rate: 0.41%
```

Run 5: Report of PCC-Vivace — Data Link



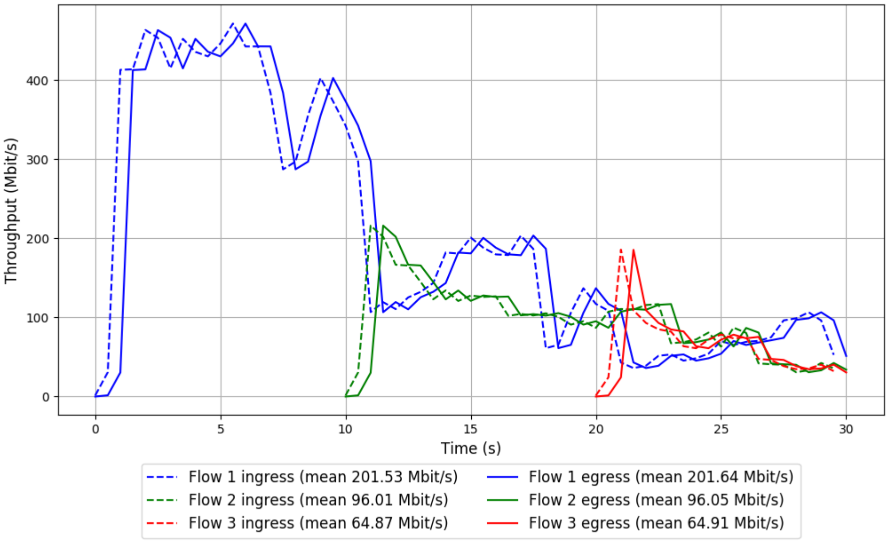


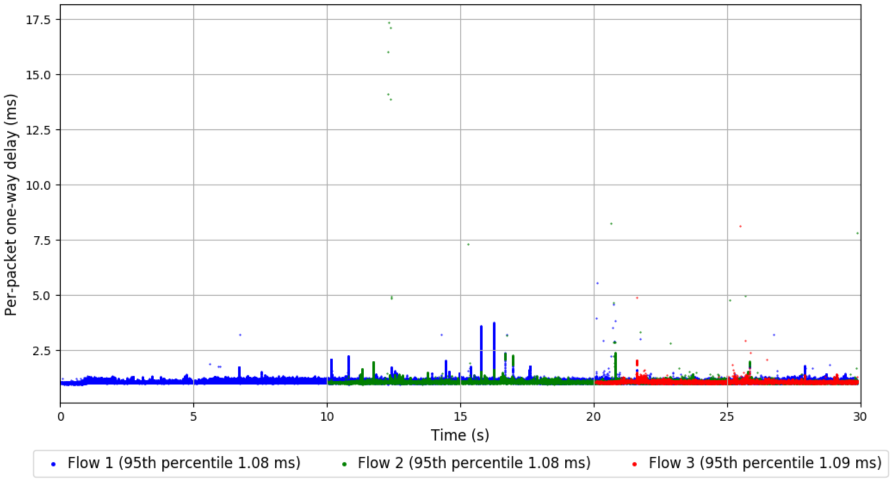
```
Run 6: Statistics of PCC-Vivace

Start at: 2018-06-30 16:34:01
End at: 2018-06-30 16:34:31
Local clock offset: 0.116 ms
Remote clock offset: -0.199 ms

# Below is generated by plot.py at 2018-06-30 20:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 286.79 Mbit/s
95th percentile per-packet one-way delay: 1.081 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 201.64 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 96.05 Mbit/s
95th percentile per-packet one-way delay: 1.083 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 64.91 Mbit/s
95th percentile per-packet one-way delay: 1.086 ms
Loss rate: 0.13%
```

Run 6: Report of PCC-Vivace — Data Link



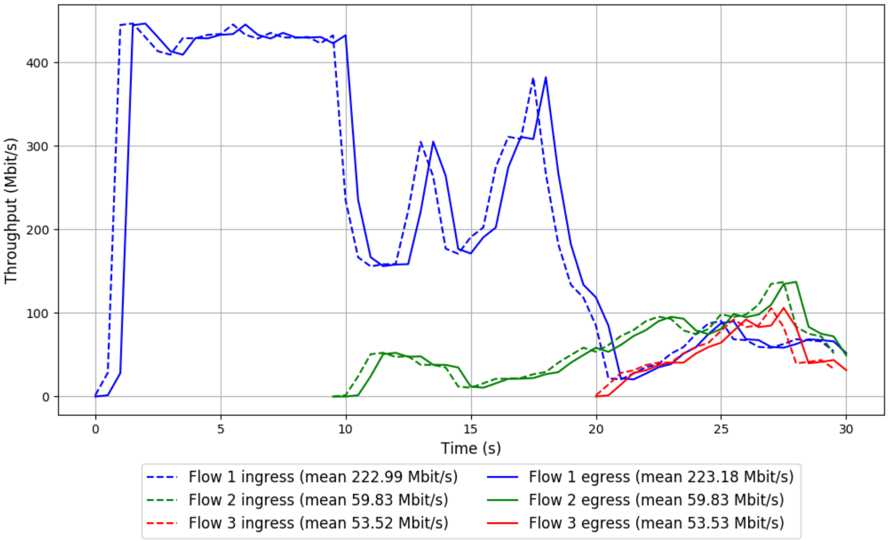


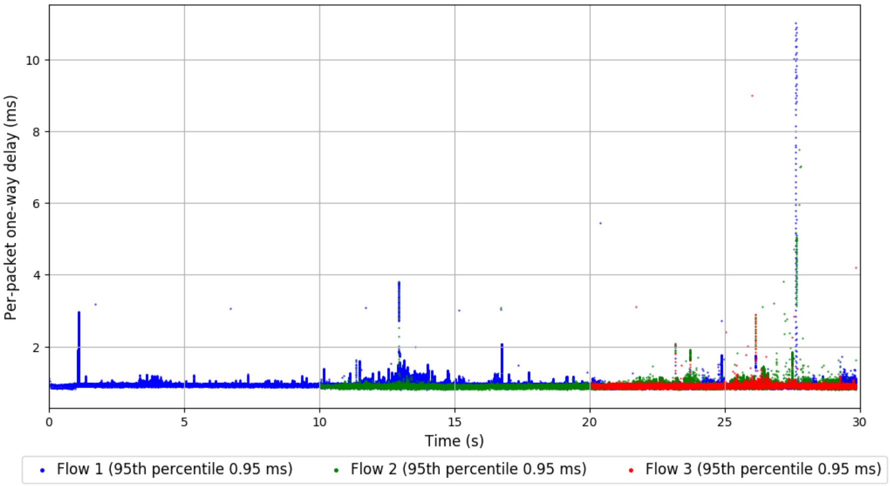
```
Run 7: Statistics of PCC-Vivace

Start at: 2018-06-30 17:00:34
End at: 2018-06-30 17:01:04
Local clock offset: 2.738 ms
Remote clock offset: 3.685 ms

# Below is generated by plot.py at 2018-06-30 20:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 280.59 Mbit/s
95th percentile per-packet one-way delay: 0.948 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 223.18 Mbit/s
95th percentile per-packet one-way delay: 0.948 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 59.83 Mbit/s
95th percentile per-packet one-way delay: 0.949 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 53.53 Mbit/s
95th percentile per-packet one-way delay: 0.952 ms
Loss rate: 0.17%
```

Run 7: Report of PCC-Vivace — Data Link



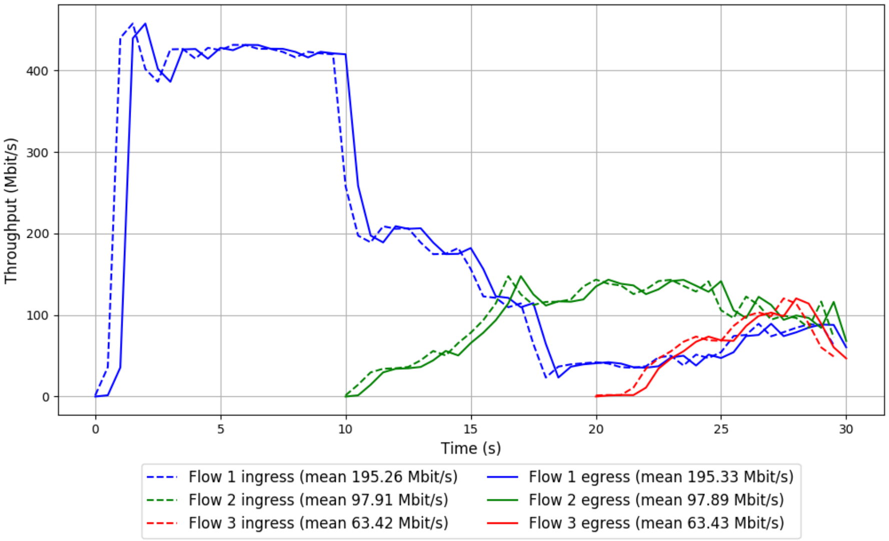


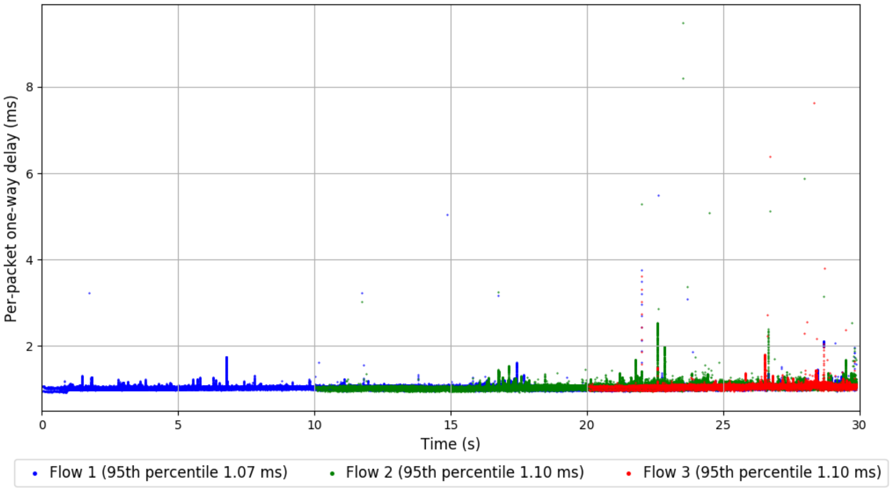
```
Run 8: Statistics of PCC-Vivace

Start at: 2018-06-30 17:27:16
End at: 2018-06-30 17:27:46
Local clock offset: 0.964 ms
Remote clock offset: 3.463 ms

# Below is generated by plot.py at 2018-06-30 20:44:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 281.28 Mbit/s
95th percentile per-packet one-way delay: 1.081 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 195.33 Mbit/s
95th percentile per-packet one-way delay: 1.068 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 97.89 Mbit/s
95th percentile per-packet one-way delay: 1.098 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 63.43 Mbit/s
95th percentile per-packet one-way delay: 1.099 ms
Loss rate: 0.19%
```

Run 8: Report of PCC-Vivace — Data Link



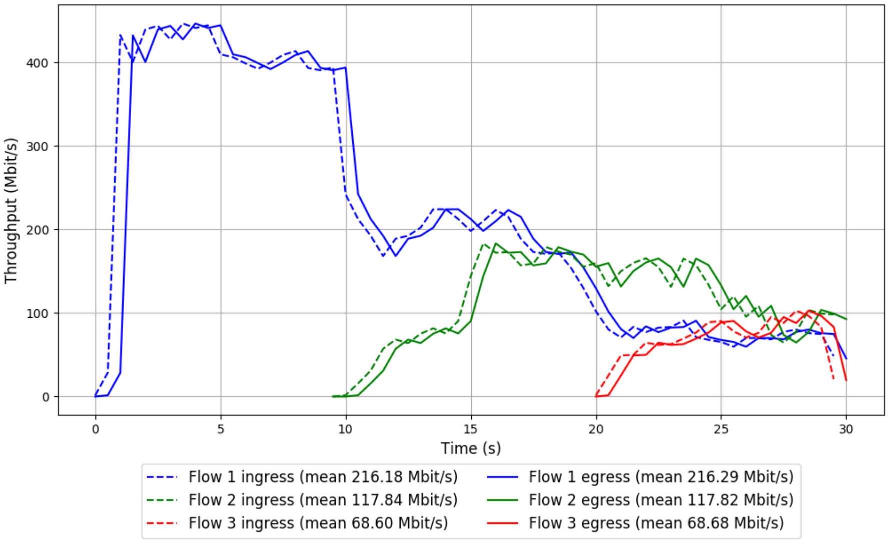


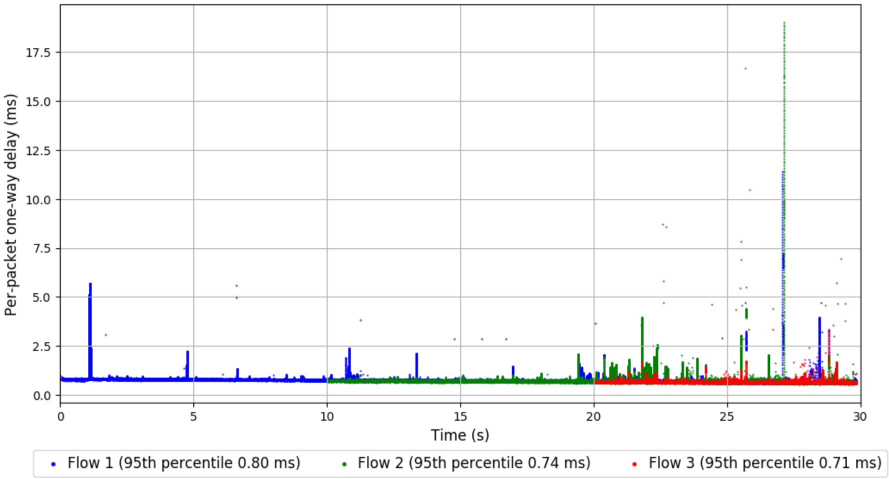
```
Run 9: Statistics of PCC-Vivace

Start at: 2018-06-30 17:53:55
End at: 2018-06-30 17:54:25
Local clock offset: 2.364 ms
Remote clock offset: 1.007 ms

# Below is generated by plot.py at 2018-06-30 20:44:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.29 Mbit/s
95th percentile per-packet one-way delay: 0.800 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 216.29 Mbit/s
95th percentile per-packet one-way delay: 0.803 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 117.82 Mbit/s
95th percentile per-packet one-way delay: 0.743 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 68.68 Mbit/s
95th percentile per-packet one-way delay: 0.710 ms
Loss rate: 0.08%
```

Run 9: Report of PCC-Vivace — Data Link



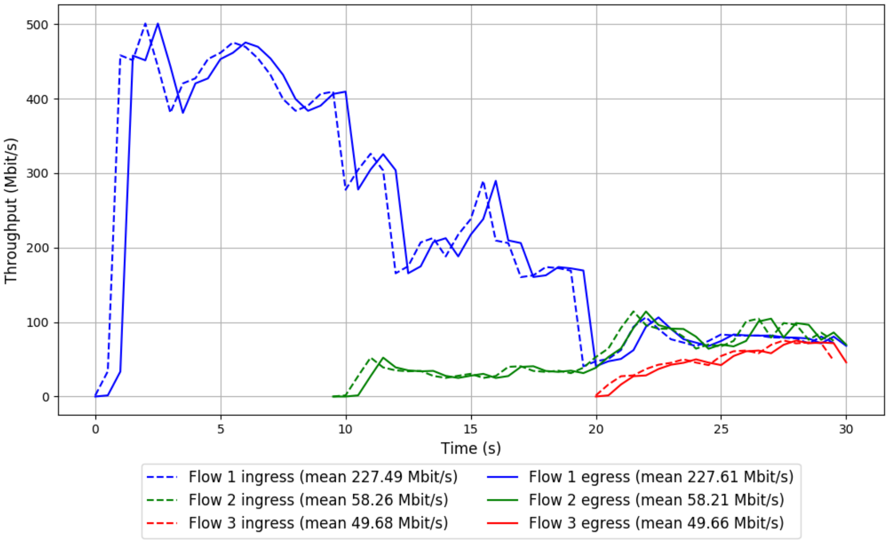


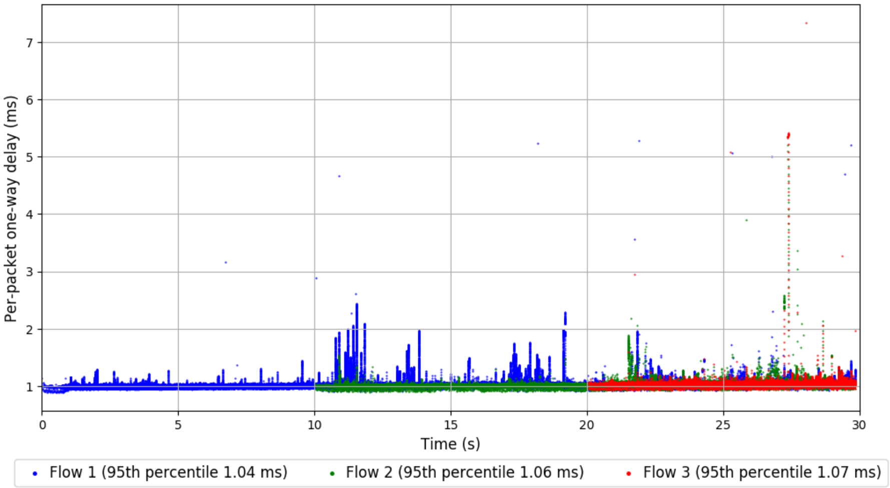
```
Run 10: Statistics of PCC-Vivace

Start at: 2018-06-30 18:20:17
End at: 2018-06-30 18:20:47
Local clock offset: 3.811 ms
Remote clock offset: -1.082 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 282.65 Mbit/s
95th percentile per-packet one-way delay: 1.055 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 227.61 Mbit/s
95th percentile per-packet one-way delay: 1.045 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 58.21 Mbit/s
95th percentile per-packet one-way delay: 1.064 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 49.66 Mbit/s
95th percentile per-packet one-way delay: 1.075 ms
Loss rate: 0.25%
```

Run 10: Report of PCC-Vivace — Data Link



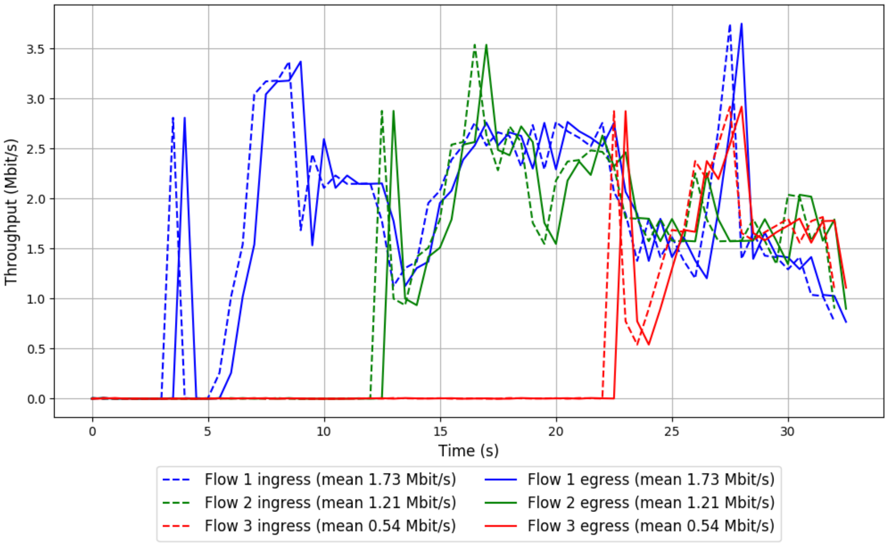


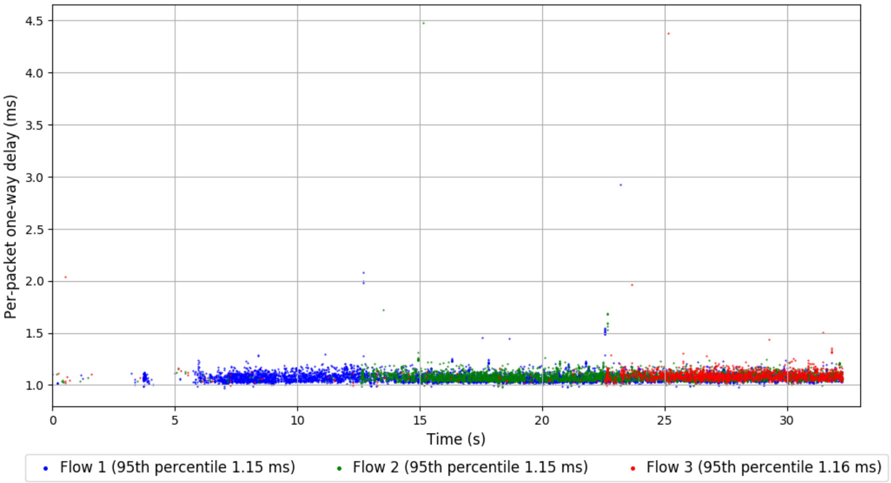
```
Run 1: Statistics of WebRTC media

Start at: 2018-06-30 14:32:27
End at: 2018-06-30 14:32:57
Local clock offset: 3.224 ms
Remote clock offset: 2.776 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.47 Mbit/s
95th percentile per-packet one-way delay: 1.149 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 1.145 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 1.159 ms
Loss rate: 0.05%
```

Run 1: Report of WebRTC media — Data Link



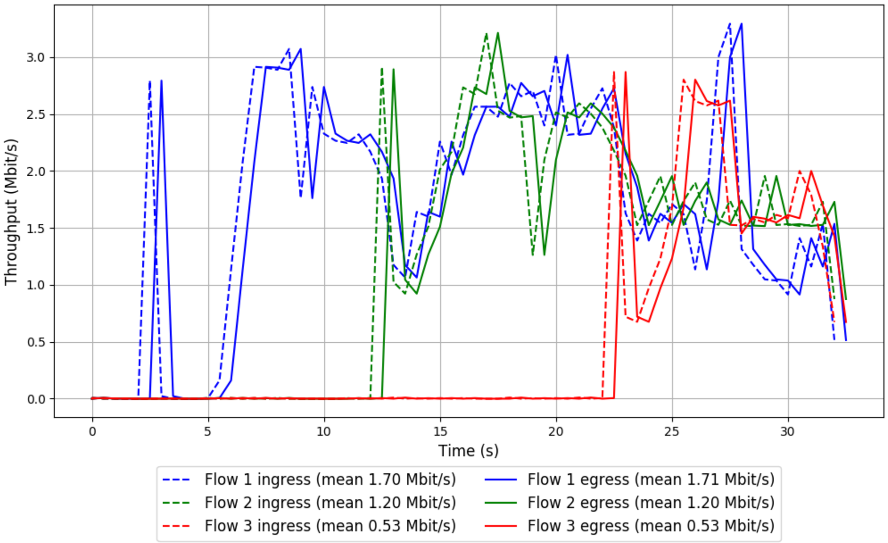


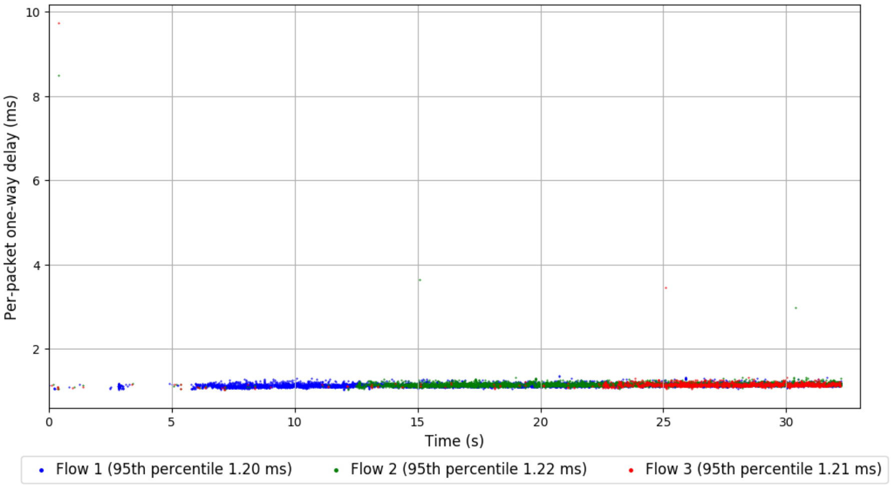
```
Run 2: Statistics of WebRTC media

Start at: 2018-06-30 14:59:05
End at: 2018-06-30 14:59:35
Local clock offset: 0.46 ms
Remote clock offset: 3.032 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.43 Mbit/s
95th percentile per-packet one-way delay: 1.208 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 1.199 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 1.215 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 1.213 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link



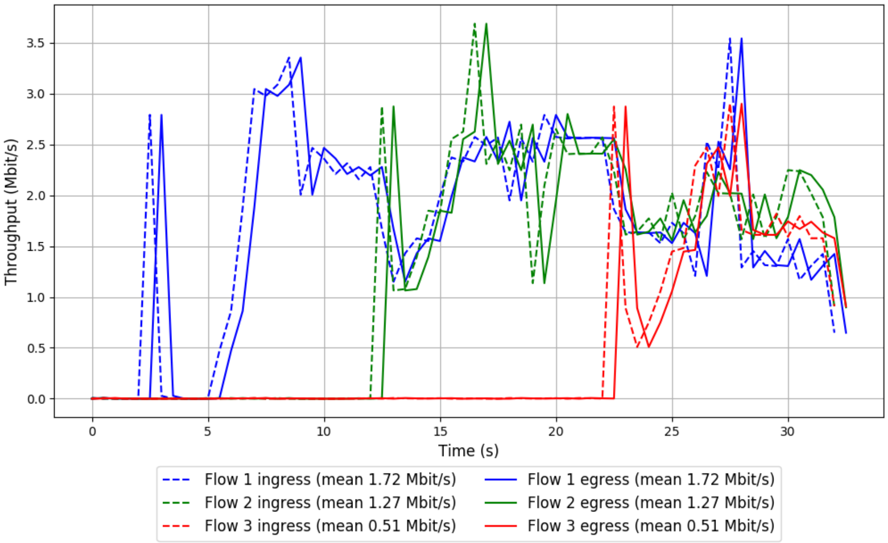


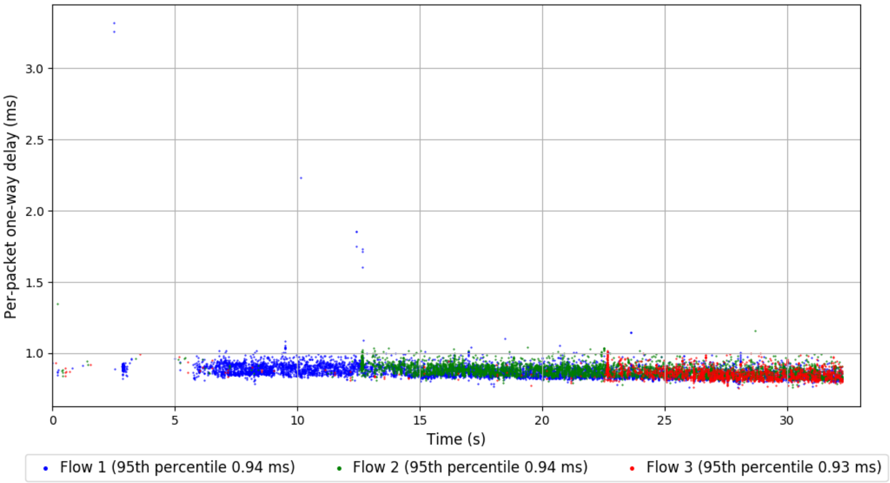
```
Run 3: Statistics of WebRTC media

Start at: 2018-06-30 15:25:42
End at: 2018-06-30 15:26:12
Local clock offset: 2.318 ms
Remote clock offset: 3.334 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.49 Mbit/s
95th percentile per-packet one-way delay: 0.940 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 0.938 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 0.944 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 0.933 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link



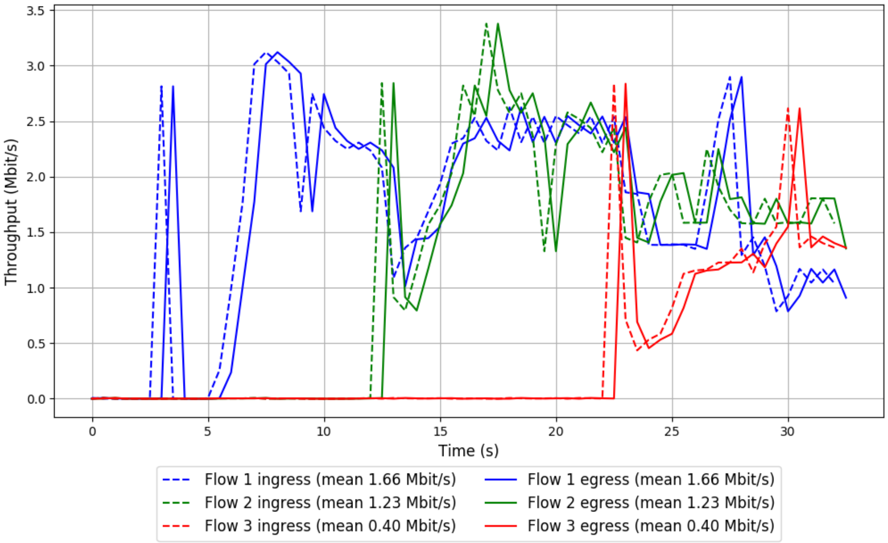


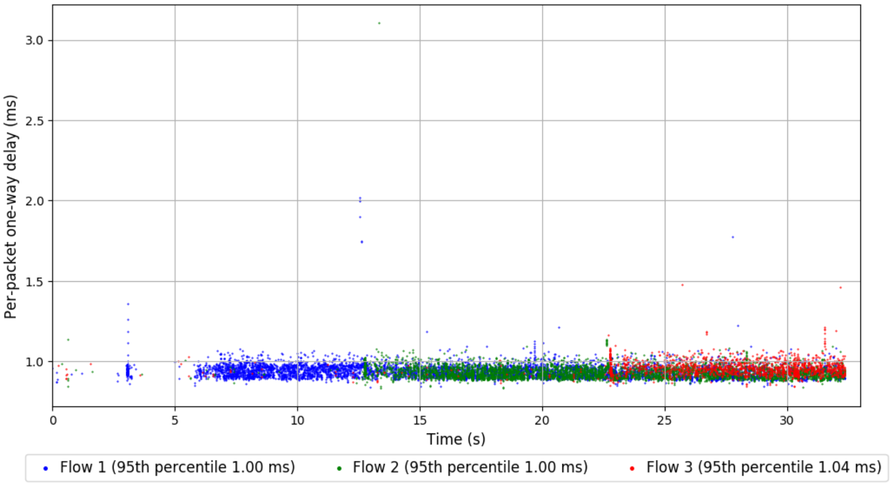
```
Run 4: Statistics of WebRTC media

Start at: 2018-06-30 15:52:15
End at: 2018-06-30 15:52:45
Local clock offset: 3.418 ms
Remote clock offset: -0.46 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 1.007 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 0.998 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 0.998 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 0.01%
```

Run 4: Report of WebRTC media — Data Link



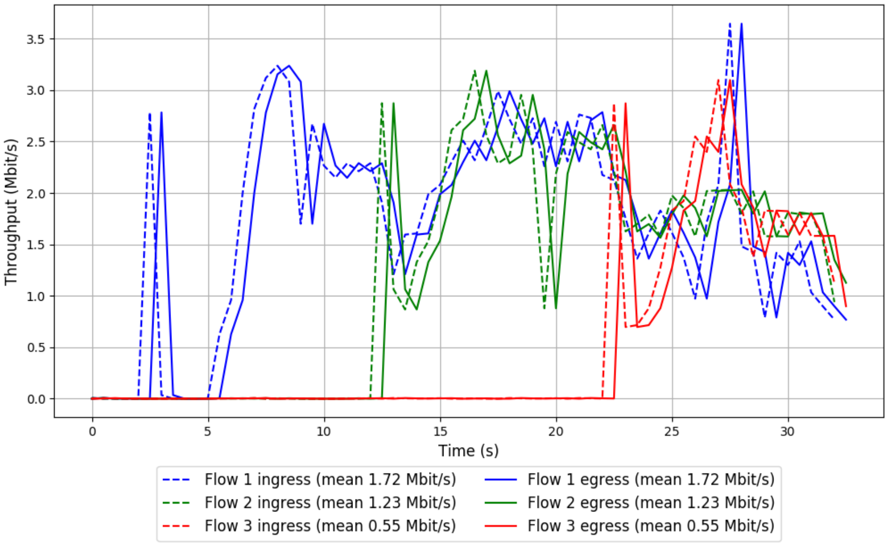


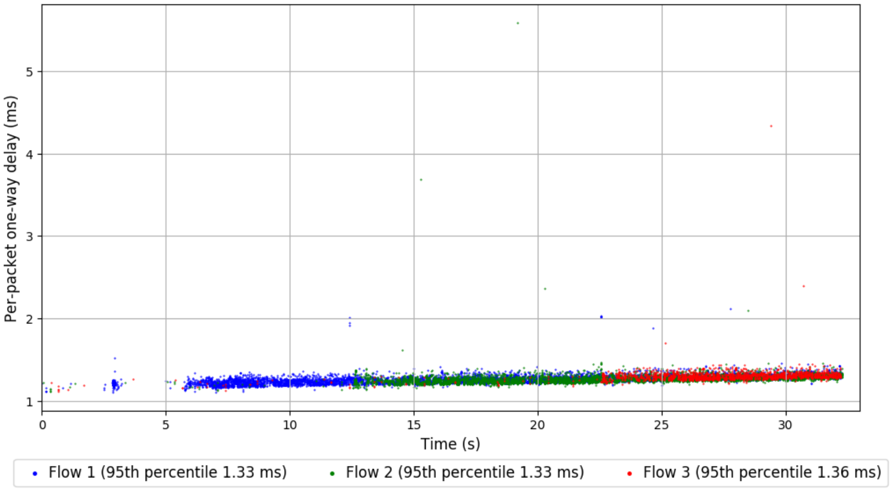
```
Run 5: Statistics of WebRTC media

Start at: 2018-06-30 16:18:43
End at: 2018-06-30 16:19:13
Local clock offset: 2.277 ms
Remote clock offset: -0.279 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.49 Mbit/s
95th percentile per-packet one-way delay: 1.340 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 1.332 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 1.335 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 1.365 ms
Loss rate: 0.64%
```

Run 5: Report of WebRTC media — Data Link



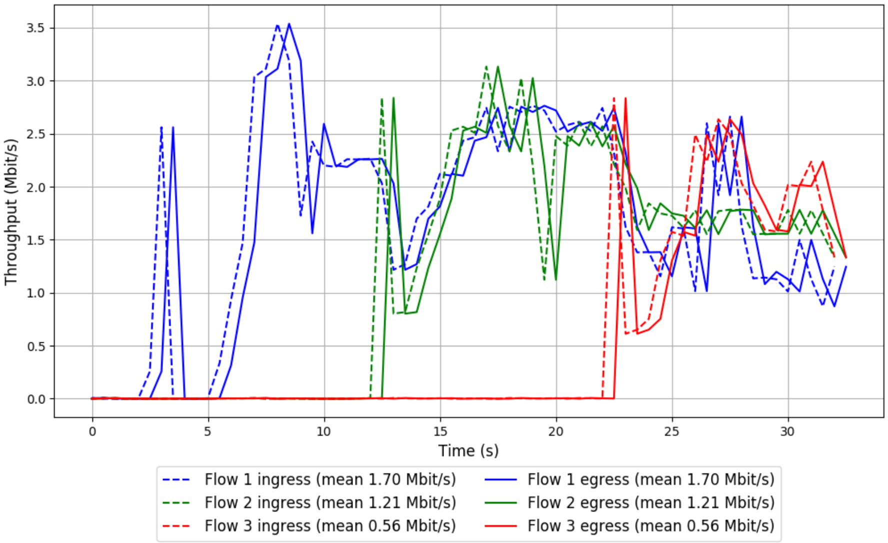


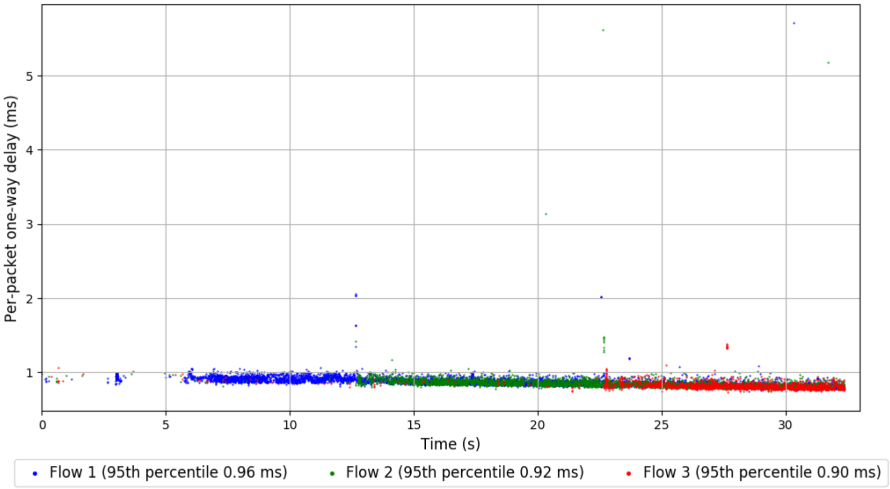
```
Run 6: Statistics of WebRTC media

Start at: 2018-06-30 16:45:13
End at: 2018-06-30 16:45:43
Local clock offset: -0.547 ms
Remote clock offset: 1.99 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.45 Mbit/s
95th percentile per-packet one-way delay: 0.944 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 0.956 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 0.920 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 0.897 ms
Loss rate: 0.00%
```

Run 6: Report of WebRTC media — Data Link



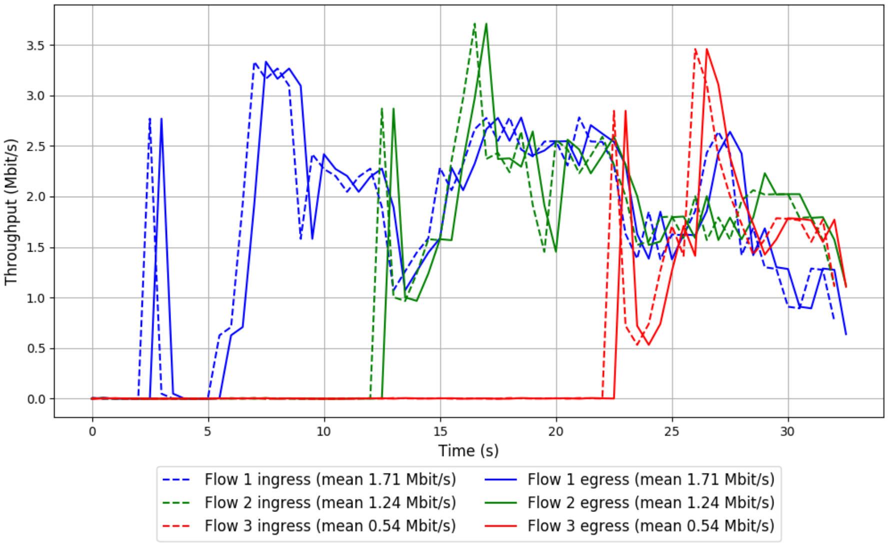


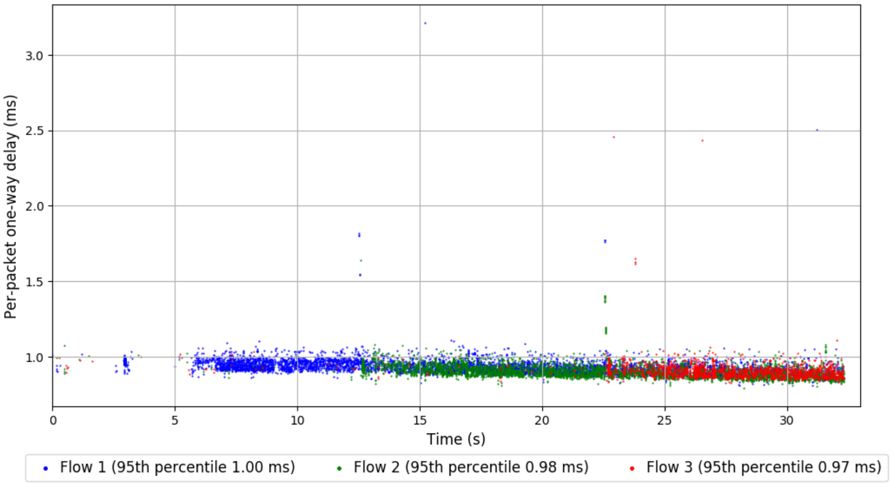
```
Run 7: Statistics of WebRTC media

Start at: 2018-06-30 17:11:53
End at: 2018-06-30 17:12:23
Local clock offset: 3.279 ms
Remote clock offset: 4.04 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 0.989 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 0.998 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 0.977 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.00%
```

Run 7: Report of WebRTC media — Data Link



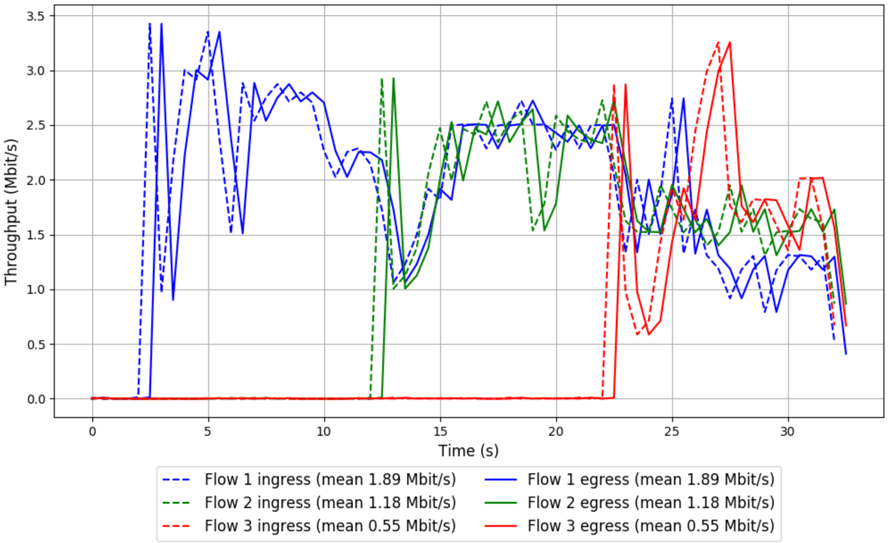


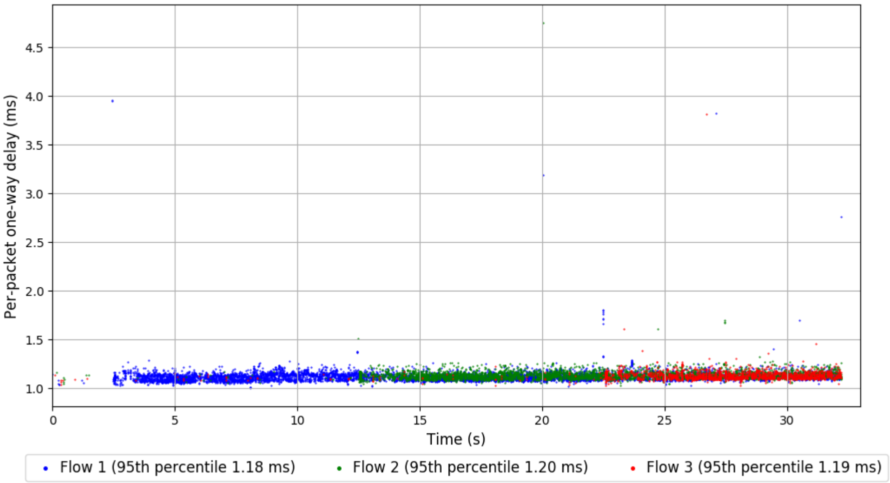
```
Run 8: Statistics of WebRTC media

Start at: 2018-06-30 17:38:29
End at: 2018-06-30 17:38:59
Local clock offset: 0.215 ms
Remote clock offset: 3.46 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 1.191 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 1.182 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 1.200 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 1.193 ms
Loss rate: 0.00%
```

Run 8: Report of WebRTC media — Data Link



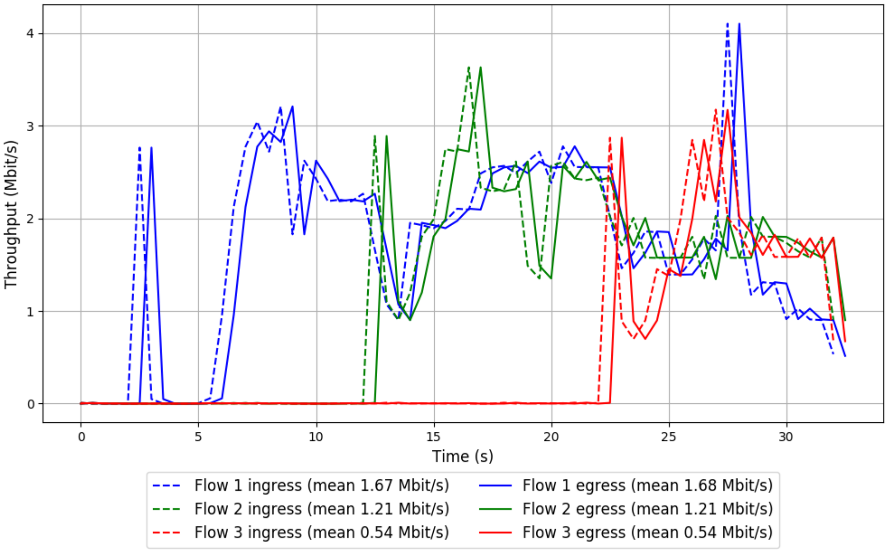


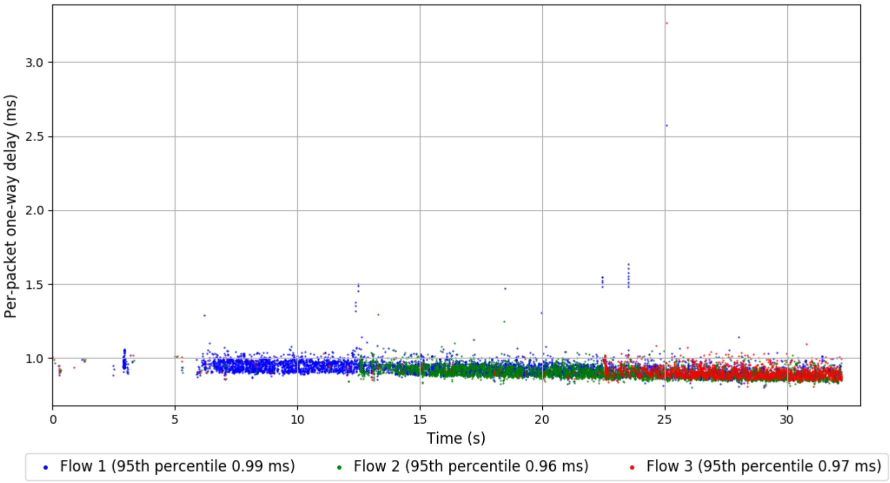
```
Run 9: Statistics of WebRTC media

Start at: 2018-06-30 18:04:56
End at: 2018-06-30 18:05:26
Local clock offset: 3.547 ms
Remote clock offset: -0.459 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 0.963 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 0.972 ms
Loss rate: 0.00%
```

Run 9: Report of WebRTC media — Data Link



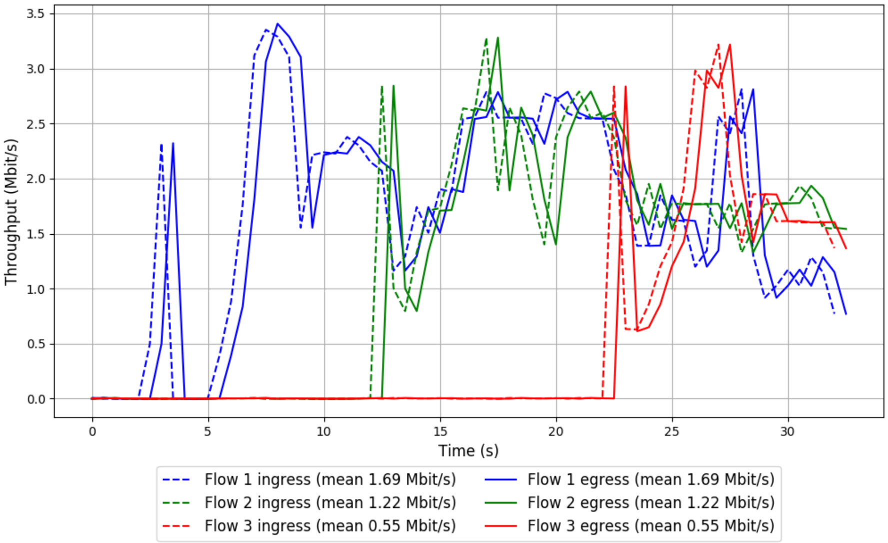


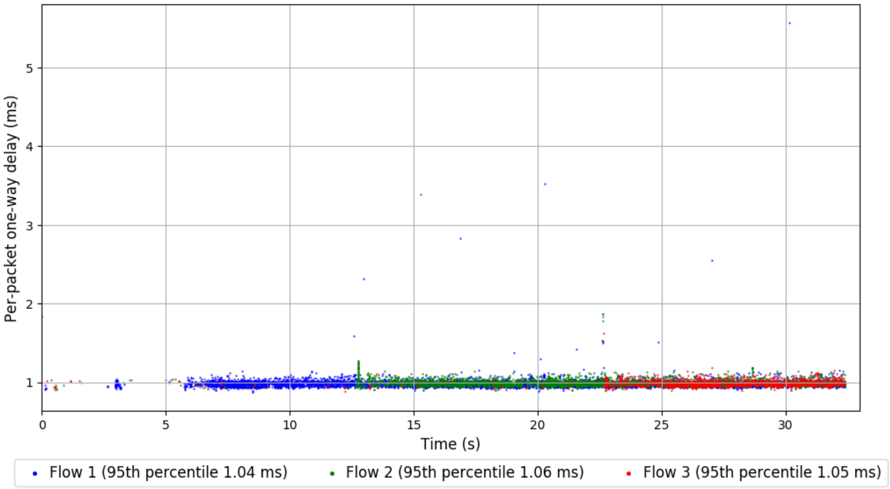
```
Run 10: Statistics of WebRTC media

Start at: 2018-06-30 18:31:33
End at: 2018-06-30 18:32:03
Local clock offset: 3.633 ms
Remote clock offset: -0.698 ms

# Below is generated by plot.py at 2018-06-30 20:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.44 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 1.043 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 1.063 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 1.054 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link


Throughput (Mbit/s)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 1.69 Mbit/s)
Flow 2 ingress (mean 1.22 Mbit/s)
Flow 3 ingress (mean 0.55 Mbit/s)
Flow 1 egress (mean 1.69 Mbit/s)
Flow 2 egress (mean 1.22 Mbit/s)
Flow 3 egress (mean 0.55 Mbit/s)


Per-packet one-way delay (ms)
1
2
3
4
5
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 1.04 ms)
Flow 2 (95th percentile 1.06 ms)
Flow 3 (95th percentile 1.05 ms)